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ABSTRACT

A survey of urban agencies sought to discover: 1) their perceived and actual information needs; 2) the kinds of information they used; 3) the nature of their information problems; and 4) their attitudes toward and the feasibility of a computerized information retrieval system. Results showed that speed and ease of use were the controlling factors in an urban information system and that there should be centralized input of recent acquisitions which should include statistical, legislative and administrative information. A computerized information retrieval system was found to be feasible, despite some anti-computer sentiment. Libraries were willing to provide terminal hardware, but wanted user support for input and searching. User agencies appeared conditioned to expend time on information retrieval, but not to contribute money. Thus it was felt that it would be necessary to demonstrate the cost-effective nature of computerized information systems to urban agencies which were heavy users of information before such systems could be implemented. (Author/PB)

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INFORMATION NEEDS IN MILWAUKEE:

AGENCIES AND GROUPS

by

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Milwaukee Urban Observatory

Winter, 1973-74

PREFACE

"Information Needs in Milwaukee-Agencies and Groups," is submitted by the Milwaukee Urban Observatory to the National League of Cities and the U. S. Department of Housing and Urban Development in partial fulfillment of Amendment #15 to Subcontract #UO-R-2, dated January 1, 1973.

The study was undertaken at the request of the Library Cooperation Group, an informal association of representatives from city, county and major academic libraries in the Milwaukee area. The group is considering a request of funds from federal offices for an experimental information system in the area. The system would gather in one place, through one medium, selected data and references to the location of other scattered information which government agencies, institutions, corporations, community groups, and the general public may need for policy development, program implementation and evaluation. A feasibility study seemed in order, and the Urban Observatory was asked to undertake it.

The survey was undertaken with funds from the State of Wisconsin through the University of Wisconsin-Milwaukee. It was directed by the author of this report, Marilyn M. Levine, research associate in the Milwaukee Urban Observatory. The assistant project director was Marc K. Fortune, Coordinator of Urban Affairs, Marquette University Memorial Library. James Katz and Dennis Utterback, graduate students at the

University of Wisconsin-Milwaukee, were both project assistants and interviewers. Hannah Daily and Don Heinz also served as interviewers.

The Observatory believes the analysis presented in this report can help the Library Cooperation Group and its affiliates determine the kind of action needed to respond most effectively to information on urban affairs in the Milwaukee community. It is happy that it was afforded the opportunity to work with and for that group.

William P. Irwin, Director
Winter, 1973-74

Acknowledgements

We would like to thank the University of Wisconsin-Milwaukee for its financial support, and the Library Cooperation Group for their encouragement, their advice, and their patience as this project began, had its problems, and was brought to completion.

To our respondents, who gave us that most precious gift - their time - I would like to express our thanks and appreciation.

To Marc Fortune for his efforts on behalf of the project as Assistant Project Director, and to our interviewers, Hannah Daily, Don Heinz, Jim Katz, and Dennis Utterbach, I would like to award the medal of valor.

And to Estelle Snyder, who typed the final manuscript, a magnifying glass with oak leaf clusters for catching the typos.

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INFORMATION NEEDS IN MILWAUKEE --
AGENCIES AND GROUPS

Summary

The title of the proposal which led to this survey was "Urban Affairs Information System Potential Users Survey." We set out to discover (1) the kinds of information urban agencies use, (2) what their perceived needs are, (3) how their perceived needs differed from their actual needs, (4) where their information problems lay, (5) if a collection and retrieval system based on computerized techniques was feasible, (6) perceptions and attitudes toward computerization, (7) willingness to cooperate in an experimental system, and (8) willingness to pay.

Like scientific researchers, urban agencies are generally at the edge of the known and reaching for the unknown. Unlike scientific researchers, their data is timely rather than timeless, the vocabulary is dynamic rather than static, and constant change is the rule rather than the exception.

For the survey, one-hour personal interviews were obtained with representatives of 88 urban agencies, representing federal, state, county, and city government, educational institutions, social service agencies, regional physical planning, health

planning and social planning agencies, profit-making organizations, citizen groups, and libraries.

While informal, verbal communication is acknowledged to be the most used form of information transfer, we were concerned only with the written word.

In-house library and information sources were used daily by respondents, with libraries receiving telephone or walk-in visits on the average of 2 or 3 times per week per agency. Respondents were generally satisfied with the library service they receive, with only two respondents "not usually" satisfied and none "never" satisfied. It was found, however, that heavier library users were not as satisfied as infrequent library users.

Government documents were used by 93%, newspapers by 91%, newsletters or professional "what's new" services by 87%, professional journals by 82%, directories by 73%, books by 70%, internal memos by 67%, general magazines by 46%, in the course of their daily work.

The size of the information community was estimated to be about 1,500 people, physically located within the City of Milwaukee in general, and tending to concentrate in a one-mile area of downtown Milwaukee. It was found that these people gather information primarily for their own work or for use in their

immediate agencies. This means that since these people provide information to their agencies who, in turn, provide services for a city of about 700,000 people and a county whose population is over one million, the information they gather or fail to gather has a multiplier effect on the decisions made as a result of the information or lack of it which affects the entire population.

Overall, the highest percentage of information gathered is of a statistical nature -- locating, analyzing, interpreting "how-plex" information, such as "how many people are there in the following human situation," followed closely by "how much money does it take to perform the following functions."

More than 60% of the reporting agencies listed education and employment as continuing concerns. More than 50% listed citizen participation, economic development, equal opportunities, health, housing, social planning, poverty and welfare. Particular subjects of more than the usual interest in the Spring of 1973 included communications, intergovernmental relations, and public administration.

Based on survey results, the ideal, or most useful, system would be characterized by centralized input of recent acquisitions of government documents, published reports, professional journals, and books in the fields of employment. education, economic

development, housing, intergovernmental relations, and social planning as the core, additional subjects as necessary, combined with an efficient distribution system for complete documents, tables, laws, regulations, etc.

The data seem to clearly indicate that statistics as a class of information can be considered more important to Milwaukee agencies than directory-type information, with complete articles and reports definitely preferred over any other type of presentation. For computerization, however, agencies seemed to prefer information about information rather than straight statistics or simple bibliographic descriptions.

Fifty-three percent of the agencies reported spending a "lot of time" finding out the latest government departmental rules and regulations, mostly those by the U. S. Departments of Housing and Urban Development; Health, Education and Welfare; the Office of Management and Budget, and the State Departments of Administration and Health and Social Services.

Perceived needs for information came primarily under the heading of unavailable information. The reasons for unavailability ranged from non-release of information, to unanalyzed raw statistics, to information costly and time-consuming to gather, to information needed for the first time that had never been considered

before. The perceived need for more, better, more timely, and more finely detailed statistics coincided with agency use of such information.

For agencies in general, time and manpower problems coupled with timeliness of information were perceived as more of a problem than accessibility, convenience, or lack of knowledge of what information is available and where it is. Library perceptions of patron problems indicate that lack of knowledge about information sources is more severe than agencies seem to think it is. It is possible that time and manpower problems are being offered as excuses for lack of knowledge, but given the traditional attitude in government and social service agenices that time is to be spent instead of money, there probably is really not enough time and not enough people to do a lot of information gathering, which results in the lack of knowledge librarians perceive.

The number of perceived information problems was quite high for some social service agencies, calling for more of an educational effort on the part of libraries and information providers to make these agencies aware of existing resources in the community.

Answers to questions on computerization indicate administrators do not see a terminal on their desks, but rather a computer facility for their staff to use which would be shared within

the floor, building, or organization. Perhaps as high as 20% of the agencies interviewed indicated strong anti-computer feelings. On the other hand, 46% of the agencies overall were willing to provide three weeks training for a staff member to enable that person to use the system.

Unlike other information systems, an urban information system needs no extensive data base for retrospective searches. The kind of information urban agencies like best can be characterized by the phrase "the latest." The latest statistics, the latest personnel change, the most recent books, the hot-off-the-press consultant's report, today's newspaper, the news from Washington, Madison, other urban areas, "who's doing what" in counterpart agencies locally and nationally, and, of course, "howplex" information.

Any urban information system should work on the philosophy that urban information and urban communication are inseparably linked, with speed and ease of access the controlling factors. If programming can be developed that would allow word-by-word searches, natural language English sentences can provide the bulk of the input to any computer system, with abstract surrogates supplied in the form of inclusion of first and last paragraphs, headings and parameters of statistical tables, and informational notes.

Input decisions can safely be put into the hands of librarians, but they will need more feedback than is customary in library situations.

Seventy-two percent of the agencies were willing to provide input information from their in-house sources, with cost the most important consideration for participation in any experimental system.

Fifty-eight percent of the agencies did not reply to cost questions. Libraries seem willing to provide the terminal hardware, but not the cost of searches and only a portion of the input requirements. With a sufficiently simple system to operate, agencies would provide their own retrieval personnel and appear willing to bear the cost of a few experimental searches in order to test the usefulness of the system to them.

Since government documents are now now fully integrated into the traditional library catalogs or accession lists, it would appear that a data base built around those coming into local libraries that were relevant to urban agencies, coupled with input from the 72% of the agencies who were willing to share their in-house resources, could prove to be a viable and valuable resource for the community. In addition, it could be available as soon as programming was completed, with the equivalent of one week's "hot news," continuous input and output, and no huge data base which would be rarely used.

INFORMATION NEEDS IN MILWAUKEE

1. Introduction

The title of this paper uses two words, "information" and "needs," which are not well-defined and may well be undefinable.

Brittain[1] states: "The concept of information, like that of need, has been most unsatisfactorily dealt with by information scientists and librarians. The heart of the problem may not lie in the youthfulness of this type of enquiry or a lack of data about needs or information, but in the conceptualisation of the problems.... It can be agreed that users would like to have information (rather than documents) retrieved and supplied to them and, ... that at present documents [or records] rather than information are retrieved. Information can be thought of as a relational concept. A document, in isolation, and unused, may contain data, theory, and references perhaps, but these contents do not constitute information until they are read and assimilated, thereby placing them in context."

"There is a similar problem when defining 'needs'. Information scientists and librarians continue to talk about

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1. Brittain, J.M., Information and its Users: A Review with Special Reference to the Social Sciences, Bath University Press, Claverton Down, Bath, England, 1970, p. 160.

information needs, and there is agreement that it is an important topic in research and teaching. But little progress has been made in defining or measuring information needs."

"Because ' information' and 'needs' are general and abstract terms it is difficult to provide satisfactory operational definitions. ... If, instead of attempting to measure needs outright, information scientists investigated aspects of use, the cost of information services, the structure of the literature, (etc.)... aspects of information systems and user behaviour that can be operationally defined ... more progress might be made."

This report takes Brittain's advice, and will attempt to measure information needs of Milwaukee's government agencies, non-profit social service agencies, and citizen groups by investigating aspects of use, costs of information services, the structure of the literature, and by taking one further measurement. The survey boldly asks the question, "What information do you feel you need but can't get?", and will report results.

II. The Generalized Approach to Information and its Use Patterns in Urban Areas

"The human need to interact with and communicate with other human beings is beyond question. Cities are, in fact, a primary physical means of satisfying this need."[2]

We shall take it as understood that cities, and by extension, urban areas, exist partly in order to facilitate human communication. It is a sad commentary on the state of our cities that so many people are unsuccessful in their attempts at communication. However, if one approaches the totality of human communication in an urban setting from a scientific viewpoint, the net result of each successful effort to communicate can be considered an incremental increase in information in its broadest sense. Or, to paraphrase Shannon, the father of information science, information is anything you didn't know before.

We can extend this concept by asking if there is a unifying thread that runs through urban communication patterns. It is believed that such a thread exists, and that the nature of what is being communicated in urban areas deals almost exclusively with human events and human interactions, or physical events as they

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2. Problems of Communication in Large Cities: A Report to the Secretary, Smithsonian Institution. William T. Knox, Chairman, Council on Communication, April 20, 1971. National Technical Information Service, Springfield, Va., Report PB-200-000.

impinge on human beings.

The need for information about what other people are doing, about human events, can be considered part of a generalized need to search for information which seems to be 'built into' human beings. This search for information is assumed to begin at birth, and to take verbal form as soon as the child can talk.

Information about human events is best dealt with in the framework of well-known communication channels. Informal, verbal communication by telephone or face-to-face contact is acknowledged to be the most efficient and most used method of information transfer. While this is outside the scope of the survey undertaken for the present study, we shall look briefly at such communication as one aspect of information transfer. In the survey itself, we shall look at formal communication channels, all of which involve written materials.

"Who's doing what" is the stuff of daily communication. Structured, formal, reporting of such events follows the newspaper-man's time-tested reporting formula: Who, What, Where, When, How and Why. But in addition to these six categories, observers of, and participants in, complex and inter-related human events ask another series of questions which shall be called the "How-plex." The "How-plex" is a set or series of questions which

asks "how much," "how many," "how high," "how low," etc. The size of the how-plex as a set of questions probably approaches a limit approximating the number of adjectives and adverbs in the language.

It is the attempt to answer these questions that characterizes an information need. The attempt to answer a how-plex question can be considered the most formal of information needs, after one gets beyond trivial case of everyday conversations.

Where do people turn to get the answers to these questions? Mostly to other people. Wood[3] in his review of user studies and Brenda White[4] in her study of the information utilization of planners find that first and foremost people turn to colleagues, subject experts, knowledgeable people, and librarians they know as individuals. It is only when they have exhausted the personnel available or are convinced beforehand that no human will know or have on their desk material to answer their question that they turn to printed matter.

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3. Wood, D. N., "User Studies: A Review of the Literature From 1966 to 1970," Aslib Proceedings, Vol. 23, No. 1, January 1971, p. 11-23.

4. White, Brenda, Planners and Information, Library Association Research Publication Number Three, The Library Association, London, 1970.

Hoey[5] presents a table showing the interrelation of information-seeking behaviour with emotional factors present in all people and in the usual communication hierarchy in a large organization. (Table 1).

Hoey states, "The two significant points to remember are that these effects have been properly established by research and that if information scientists are to increase the effective use of information in their organization they must plan their behaviour in the full knowledge of these behaviour patterns."

In the interface between verbal and written communication and information transfer stands the library. There is evidence that the library does not consider itself part of a total urban communication system in spite of protests to the contrary. We speak here, of course, of the public library. Other libraries, such as university libraries, and special libraries within organizations, have as their primary consideration the wishes of their particular clients. As their clients operate in an urban setting, however, they too, can be considered part of the total information picture.

The Smithsonian Council on Communication investigated the library as an urban communication system. Table 2 shows

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5. Hoey, P. O'N., "Systematic Utilization of Human Resources as an Intergral Part of Information Science Work," Journal of the American Society for Information Science, Vol. 23, No. 6, Nov-Dec. 1972, p. 384, 386.

TABLE 1.

ASPECTS OF ORGANIZATIONAL HUMAN BEHAVIOUR

1. Flexibility of people communicating to people.

2. Individual nature of each person's need.

3. Failure to consult if the psychological cost is likely to be high, e.g., loss of dignity; rebuff.

4. Repetition of rewarded behaviour only if the cost is less than or equal to other behaviour.

5. Willingness to ask questions of friends (no critical rebuff).

6. Greater use of external resources but more value from internal.

7. Need for environment which encourages communication, even for communication "stars."

8. Importance of spatial configuration in aiding and preventing communication.

9. Extension of friendship-type relationships into business areas.

10. Supervisors good position for communicating.

11. Management organization can restrict use of informal channels.

12. Opportunities for acquaintanceship by project teams, transfers can improve informal communication channels.

13. Time of adoption into a new group; new hires, transferees, jargon problems.

14. Necessity for communications to fit an individual's "map" of his company (or agency) and to be compatible with his personal interests.

15. Some of the "communicators" involved are: isolates, liaison people, gatekeepers, members of invisible colleges, low performers, high performers.

TABLE 1. (continued)

16. Low performers make poor use of all resources, read hardly at all, have difficulty in "breaking in" to new groups.

17. High performers, and in particular gatekeepers, increase their performance in proportion to the number of contacts they have inside and outside their speciality. They read professional journals, can specify problems and identify an appropriate source of information. International technological gatekeepers have been identified.

18. Gatekeepers can therefore mediate for low performers.

From Hoey, p. 386

TABLE 2.

LIBRARIES (AS URBAN COMMUNICATION SYSTEM)

Network structure within city (from user viewpoint)	NO, in general, but interlibrary loans are possible.
System development primarily responsive to user demand	NO, mainly responsive to professional managers of system.
Message content under user control	NO (?)
Optimal communication to and from user	NO
Automatic instruction of user in successful system use	NO
Automatic response to user failure	NO
Force action to change system when traffic shows need	NO
Provides for conflict resolution	NO
Substantial effort on message reformulation, translation	NO
Unifies City--serves as group rallying points	NEUTRAL, but possible if desired and operated in appropriate mode.
Tells state of city	NO
Tells state of communication system per se (to operator)	NO
Capable of incremental growth	YES
Self-monitoring	NO
Capable of graceful failure	YES
Handles affective information	NO

TABLE 2.
(continued)

Increased access to recorded information	YES
Promotes group consensus	NO (?)
Increases "info space" shared by communicants	YES

From Problems of Communication in Large Cities, 1971.

their assessment of libraries using standard systems terminology.

This view of libraries, while pointing out some of the problems, does not consider the fact that public perceptions of what libraries "ought" to be are at variance with the systems view. Studies of public perceptions have generally focused on specific aspects of library service, and ignored the global view. Some tentative conclusions can be drawn, but only by inference. For example, a study done in 1972 in Northbrook, Illinois[6] investigated the perceptions of library users as to what the library should be doing that it wasn't doing already. In this upper-middle class community (population 29,000; median income 1968 $16,000), 50% of those filling out the questionnaire had no answer to questions such as "Considering the library and its programs today, what could it be doing better?". Of those who did reply, the main problem was considered to be "not enough books," although the collection at that time was about 55,000 volumes and adding 10,000 volumes per year. When asked specifically, "What do you think a public library's main task should be?", 45% of those who replied answered "to provide books for people."

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6. Combs, Richard E., "Existential Questions", Illinois Libraries, Vol. 54, No. 5, June, 1972, p. 465-468.

From this and other studies[7] one can infer that the public sees the library as a Fort Knox of knowledge, accumulating books as a saver accumulates money, to be held in reserve for use when needed. It follows, therefore, that the bigger the collection the better the public likes it. Self-education is seen as the primary purpose for having all the books, and after that, reference materials for the community which is too expensive to own privately.

If this perception is truly the case, then resistance should be encountered in attempts to make the library more communication-oriented, while at the same time segments of the community complain that the library is not serving them adequately.

Given this conflect between two sets of 'needs': the need to live up to the public perception of what a public library should be and the need to become more involved in the communication system of the community, libraries find themselves in a bind.

The Smithsonian Council on Communication says:[8]

"A very recent study on public libraries indicates that

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7. Bourne, Charles P., et al, Preliminary Investigation of Present and Potential Library and Information Service Needs, Final Report, Contract No. OEC-0-72-6691, prepared for U. S. National Commission on Libraries and Information Science, Feb. 1973, p. 37.
8. Problems of Communication in Large Cities, p. 16.

their administrators are concerned about the failure of libraries to adapt to today's needs. They are concerned about the possibility that other institutions may be created to replace libraries, but they are, nevertheless, uncertain how to make the change.... The Council believes... that providing an information service for the community should be the major public library function, and it urges drawing on all sources... for the necessary competence."

III. Milwaukee -- The Agency Scene

The City of Milwaukee has about 717,000 people, four levels of government, 310 non-profit social service agencies and 268 community-oriented citizen groups fussing over it or at it.* In order to do their job, each of the agencies and groups serving a public need must have information. But what kind of information, where they get it, and what they would like that they can't get is not well known. The survey undertaken as the empirical part of this study attempts to remedy that situation.

The agencies surveyed belong primarily to government and non-profit social service agencies, with some information gathered for comparison purposes on a few community-minded for-profit institutions and citizen groups known to have extensive research capabilities or known to be active information seekers and disseminators. Libraries were interviewed as a separate category, although some questions were identical with the agency survey since libraries, too, are urban agencies.

In compiling the list of interviewees, one striking fact emerged. Although having jurisdiction over large geographic

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*The number of non-profit social service agencies was arrived at by counting the separate listing in the telephone yellow pages for social service organizations. The figure for community groups was compiled by M. G. Palay for Citizen Participation in Milwaukee, Milwaukee, Urban Observatory, 1972.

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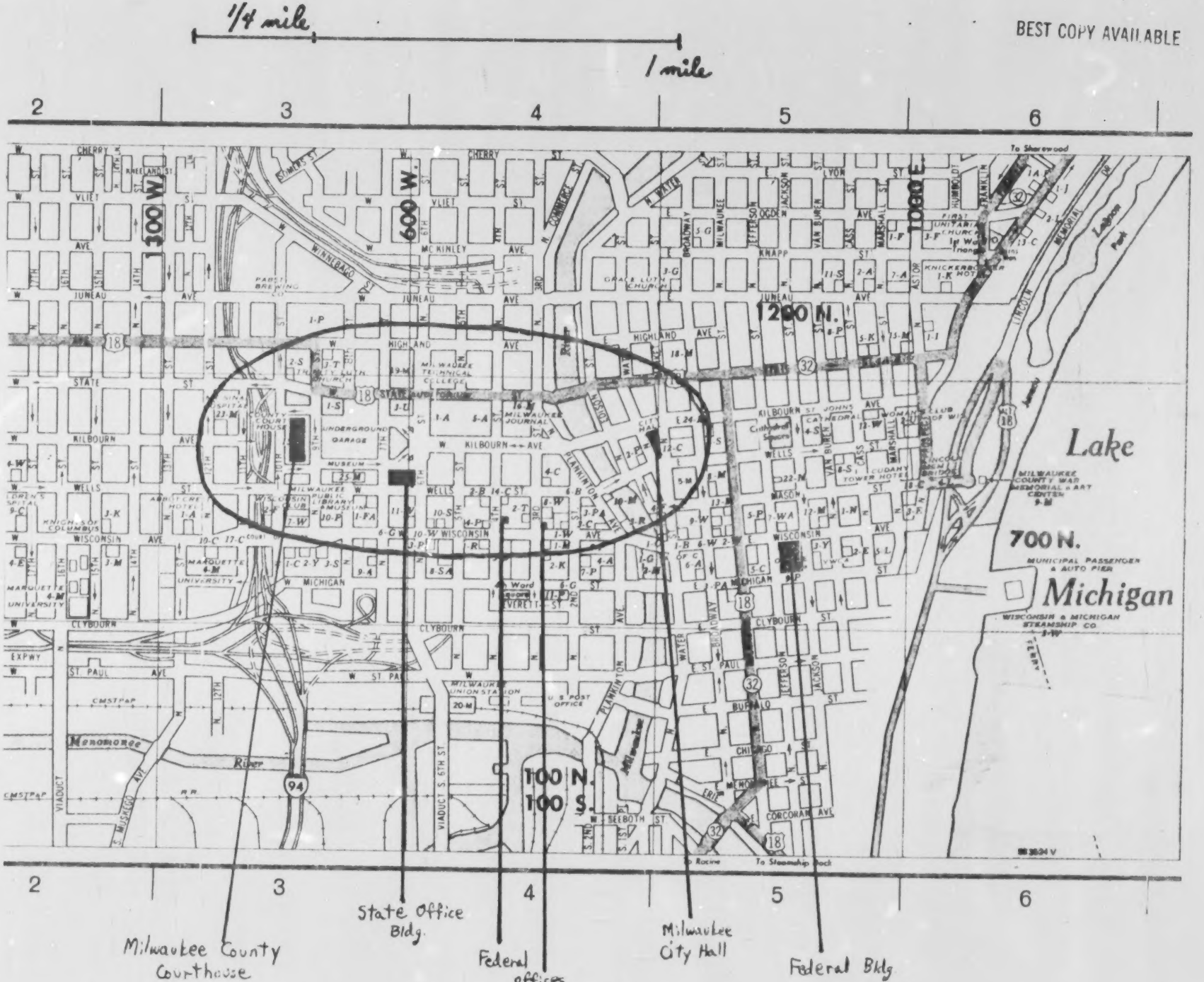

areas (some encompassing the entire state and parts of other states, such as the regional headquarters of federal agencies), the physical proximity of city, state, and federal offices to each other is worth taking a moment to discuss.

You will note from the map of Central Milwaukee that a one-mile oval with elliptical centers at the Milwaukee City Hall and County Courthouse includes, among others, the State Office Building and two federal regional offices, the U. S. Department of Housing and Urban Development and the U. S. Department of Commerce field office. The federal office building is not located within this oval, being outside by four blocks, leading one to suspect that an analysis of the activities carried on in that building would show that they are not as closely tied to urban information-processing activities as the federal offices which are found inside the oval.

It would appear that in order to facilitate inter-governmental-level communication and to keep track of "who's doing what", physical proximity is the order of the day.

In all, the U. S. Government is estimated to have 32 non-military categorical agencies within Milwaukee County. A categorical agency is defined to be one which is listed as a main heading under the type of government in the white pages of the

telephone book. Thus, for example, the Food and Drug Administration office in Milwaukee was not counted as a separate agency since it is listed under the heading for the Department of Health, Education and Welfare.

The State of Wisconsin is estimated to have 40 categorical agencies located in Milwaukee County not including the National Guard or those agencies directly related only to services for state employees, such as the state employee retirement systems office.

Milwaukee County Government was considered to have 42 categorical agencies, counting the Department of Public Welfare as one agency. The City of Milwaukee was estimated to have 45 categorical agencies.

A grand total of 159 categorical agencies comprise the governments part of the study universe. Of these, 30 or 19% were chosen as the government agency sample on the basis of judgements by the project directors, the Library Cooperation Group acting as advisory board, and the Observatory directorate.

Of the 310 non-profit social service agencies, 39 were chosen for interviewing purposes. This represents 13% of the total. The agencies range from two-person operations to those employing many hundreds of people, with concerns covering

every aspect of human problems from the cradle to the grave.

Four profit-making organizations were interviewed, as were five citizen groups. More citizen groups were not included because of pre-test results. Sample interviews with representatives of citizen groups who were not actively engaged in information processes showed such an abysmal lack of knowledge about information sources in the community that it would have been foolish to pursue this particular study with them. It does point out, however, that there exists a large segment of the community which is badly in need of information education and which would provide a fruitful field for further study.

There were two planning agencies, supported by both public and private funds, who were treated as a separate, quasi-public category. Both of the agencies are in the health field.

Included as governmental agencies were three tax-supported educational institutions, but excluded were four tax-supported libraries, who were interviewed separately and included, in the library category.

The library category identified fourteen libraries, including five private higher educational institution libraries and nine other libraries, all tax-supported, including government special libraries, one public library system, and libraries in institutions of post-

secondary education.

A final total of ninety-four agencies was chosen, broken down as follows:

Government agencies, 4 levels	30
Social service agencies	39
Health planning agencies	2
Profit-making organizations	4
Citizen groups	5
Libraries	14

Personal interviews, generally lasting about an hour, were conducted with representatives of eighty-eight of these agencies, representing a completion rate of 94%. Interviewing was performed between March and June of 1973.

IV. Results of the Survey -- Agencies and Groups

Results of the survey will be reported here as the questions were asked. This chapter deals with agency and group responses, of which there were 76. The fourteen libraries will be discussed in the next chapter.

The first section of the form dealt with the nature of the organization, the geographic area served, and the projects dealt with. Although 76 agencies were surveyed, only 74 forms were useable; an N of 74 = 100%. Not all questions were completed on each form; the number replying will be given with each question (R).

Q.1.1 What is the nature of your organization?

Government agency (city, county, state, etc.)
Educational Institution
Citizen group concerned with Milwaukee
Non-profit social service agency
Profit-making organization
Church related agency
Other

N = 74 R = 74 = 100%

This would seem to be a straight-forward question, but it proved difficult in some cases to determine exactly where to place several of the agencies. Lines between government jurisdictions, for example, are often fudged when considering an agency which serves several counties, which is established by state statute,

and which receives mostly federal funding.

Social and health planning agencies seemed to have more in common with each other than with physical planning agencies. As a result of some almost arbitrary decisions, based mostly on familiarity with the agency, the following gross breakdown was arrived at:

	No.	%
Public agencies, including educational institutions and service agencies	30	41
Private agencies and citizen groups	35	47
Quasi-public agencies (health and social planning)	5	7
Profit-making organizations	4	5
	74	100

Of the public agencies, there were

Federal government agencies	3
Milwaukee County government agencies	8
City of Milwaukee government agencies	7
Educational agencies (city, state)	5
State, Multi-county and other	7

The only types of government agency not represented were public works and police and fire departments.

Of the private agencies, there were

Non-profit social service agencies		29
Church-related	5	
Citizen groups		4
Private, non-social service groups		2

The social service agencies included those that served primarily one ethnic group (black people, Spanish-speaking, religious affiliations) and those that focused on a particular type of problem (i.e., legal problems, new immigrants, health problems). An adequate cross-section was obtained in order to incorporate as many types of agencies as possible.

Q.1.2 What is the geographic area served by your agency?

N = 74 R = 74 = 100%

The focus for this study was on the city of Milwaukee, but agency jurisdictions also included Milwaukee County, which incorporates the city and eighteen suburbs, the Milwaukee SMSA (Standard Metropolitan Statistical Area -- Milwaukee, Waukesha, Ozaukee and Washington Counties), and the seven-county state of Wisconsin southeast region (Milwaukee, Waukesha, Ozaukee, Washington, Kenosha, Racine, and Walworth Counties).

Here again, neat demarcation lines proved difficulty to follow exactly. The following breakdown seems to reflect the picture drawn by the survey answers:

Sub-section of the city only	5
Sub-section of the city wit interest in the city as a whole	3
City of Milwaukee	10
City of Milwaukee and some suburbs within Milw. County	1
Milwaukee County	21
Milwaukee County and parts of other SMSA counties	8

Milwaukee SMSA	9
Seven-County SE Wisconsin region	7
Ten-County SE Wisconsin region	1
State of Wisconsin	7
State of Wisconsin and parts of other states	1
National	1

In terms of jurisdiction lines, the picture seems to be:

Jurisdiction stops at the city boundaries	18	24%
Jurisdiction stops at Milw. County line	22	30%
Jurisdiction lies within Milwaukee SMSA	17	23%
Jurisdiction is SE Wisconsin region	8	11%
Jurisdiction covers State of Wisconsin	7	9%
Jurisdiction covers more than state	2	3%

This particular question is especially interesting since only one agency interviewed had an address outside of Milwaukee County, and 68 or 92% were located within the city boundaries, many within the downtown area.

Public agency jurisdictions, as could be expected, tended to follow governmental jurisdiction lines, with federal agencies having the state border or more as their line of demarcation. Private agency jurisdictions were more or less evenly divided among the geographic designations, showing no distinguishing features.

Questions 1.3 through 1.6 were open-ended questions designed to ascertain the areas of concern of the various agencies and organizations. All 74 agencies answered this question.

Q.1.3a In general, what kinds of problems do you deal with?
1.3b What projects have you been working on lately?
Q.1.4a Are these continuing concerns?
Some are
All are
None are
1.4b (List of continuing concerns)
Q.1.5 What major projects have you had in the past five years other than the ones you just mentioned?
Q.1.6a Are there future projects you expect to be working on in the coming year or two which are different from those already mentioned?
1.6b (If there are future projects) Can you tell me in general what they are?

To attempt to pigeonhole the concerns by individual agencies proved to be impossible. Very few agencies could be said to be concerned with only one problem to the exclusion of all others. For example, an agency which had been concerned with providing day care services soon found itself involved in zoning problems, learning disabilities, welfare payments, job training, and transportation. The general impression was that the agencies tried to find a series of connected aspects to their original concerns so that the net of services was as complete as possible. To take the day care example again, one agency might look at it from the viewpoint of the children, another from the viewpoint of the parents or single-parent family, still another from the viewpoint of the physical facilities, another from the teacher-training aspect, yet another from a legal or political viewpoint. When the charge is made that there is duplication of services, it is probably due to an oversimplification of human needs and a reluctance to accept the

fact that true specialization is not possible with regard to people.

An analysis of "counterparting" was performed on the basis of answers to questions 1.3 through 1.6. "Counterparting" is the matching of public and private concerns on the same topic. This analysis was performed by compressing scattered topics under general headings, then classifying agencies as public or private, single-function, two-function, or three-or-more-function agencies. Note that only the single-function agencies show "counterparting" to any extent; two-function and three-function agencies show almost none. The numbers indicate number of agencies classified in the category.

Single-Function Agencies

Public		Private	
1	Economic Development	2	Economic Development
3	Education	1	Education
2	Health	1	Health
1	Housing	1	Housing
1	Social Services	4	Social Services
1	Employment	6	Legal Services and Civil Rights
1	Parks and Recreation	1	Minority Economic Development
4	Public Administration	2	Neighborhood Development
		2	Social Planning

Two-Function Agencies

Public		Private	
3	Health and Social Services	1	Health and Social Services
2	Education and Social Services	1	Education and Social Services
3	Housing and Physical Planning	1	Housing and Economic Development
1	Legal Services and Social Plng.	1	Legal and Social Services

Two-Function Agencies (continued)

Public		Private	
1	Housing and Social Services	2	Social Planning and Social Services
1	Public Administration and Social Services	1	Health and Employment
1	Social Planning and Physical Planning	1	Employment and Social Services
1	Physical Planning and Transportation	1	Public Administration and Economic Development
		1	Minority Economic Development and Social Services
		1	Legal Services and Education

Three-or-More Function Agencies

Public		Private	
1	Physical Planning and Economic Development and Minority Economic Development	1	Social Services and Social Planning and Education
1	Employment and Housing and Legal Services and Social Planning	1	Housing and Employment and Education
1	Economic Development and Physical Planning, Development and Social Planning, and Housing and Transportation	1	Social Services and Social Planning and Health
		1	Employment and Health and Social Services

Remembering that these general headings are not meant to be more than catch-alls, it would appear that Milwaukee agencies manage to permute major human concerns into most, if not all, of the possible permutations and combinations, allowing them to cover most of the ground efficiently and with little wasted effort.

By assigning general subject conerns, the following list of concerns was identified, arranged alphabetically.

Aged
Communications and Media
Day Care
Drug Abuse (including Alcoholism)
Economic Development
Education
Employment
Environmental Concerns
Health Planning
Health Services
Housing and Relocation
Immigrants
Juvenile Delinquency
Legal and Civil Rights
Mental Health, Mental Retardation
Minority Concerns
Minority Economic Development
Parks and Recreation
Physical Planning and Development
Physical Rehabilitation
Public Administration
Public Utilities
Religious Concerns
Social Planning
Social Services - General
Taxes
Transportation
Voting
Welfare
Zoning

To attempt to predict which projects in particular the agencies would be working on in the next year or two proved to be the hardest question to answer. Many agencies said that was confidential information. Of those who did answer (30 or 41% of the total), increased educational and preventive services was mentioned by ten, impact of revenue sharing was mentioned by five, environmental and social cost accounting was mentioned by three, as was outdoor recreation, including bike trails. Other

future projects included direct housing allowances, advocacy planning for the handicapped, central referral for all social services, ombudsmen projects, neighborhood redevelopment, health economics, environmental planning, and an investigation of the legal rights of students, the mentally retarded, and those whose probation had been revoked. These concerns represent the information topics of a large urban community in 1973.

The next series of questions attempted to ascertain where the agencies turned to find printed material and the kinds of written material they used in their work. As was mentioned previously, person-to-person communication is acknowledged to be the most used form of information transfer. Our concern here is the written word.

Q. 2.1 How often did you personally consult each of the following libraries for agency purposes during the last week?

In-house library or book collection larger than 100 items
Marquette University Memorial Library (main library)
Phone_____ Walk-in_____
Marquette University Law Library
Phone_____ Walk-in_____
Milwaukee County Law Library
Phone_____ Walk-in_____
Milwaukee Legislative Reference Library (City Hall library)
Phone_____ Walk-in_____
Milwaukee Public Library
Central Library (downtown) Phone_____ Walk-in_____
Neighborhood Libraries (where)
Phone____ Walk-in____

Milwaukee Urban Observatory (library)
Phone____ Walk-in____
University of Wisconsin-Milwaukee Library
Phone____ Walk-in____
Other (specify)
Phone____ Walk-in____

N = 74 R = 58 = 78% No reply or no library use = 16 = 22%

Forty-eight agencies or 83% of those replying to this question indicated they had in-house libraries larger than 100 items. Of these, more than two-thirds indicated they used this resource constantly, often several times a day. In addition, twenty agencies, 35% of the total, used only their in-house sources for information; using no other libraries. By simple subtraction, thirty-eight agencies, or 65% of the total, used outside library sources for their information needs. Of the ten agencies reporting no in-house library, all used outside sources.

Q. 2.1 Library Use

	No. of Agencies	%	Total No. Library Consulta.	Phone	Walk-In	Type Unknown
In-house collection	48	83	33 agencies use constantly (60%) (twice a day)			
Marquette University Memorial Library	4	7	7	4	3	
Marquette University Law Library	3	5	7	0	7	
Milwaukee County Law Library	7	12	10	4	2	4
Milw. Legislative Reference Library (City Hall Library)	5	9	17	0	7	10
Milw. Public Library Central Library-Downtown	23	40	51	19	28	4
Milw. Public Neighborhood Libraries	3	5	Phone, then walk-in Locust, Llewellyn, one unknown			

Q. 2.1 Library Use - continued

	No. of Agencies	%	Total No. Library Consulta.	Phone	Walk-In	Type Unknown
Milwaukee Urban Observatory (Library)	1	2	1	1	0	
University of Wisconsin-Milwaukee Library	12	21	29	4	23	2
Madison libraries	6	10	9	4	4	1
Other libraries	10	18	10			10
Medical College library						
Community Relations-Social Development Commission library						
Suburban public libraries						
Carroll College library						
U. S. Department of Commerce, Milwaukee office, library						
Globe-Union library						
Chicago (special library)						
Private, personal libraries						

It is thus clear that in-house libraries serve as the primary information storage and retrieval devices for the agencies and organizations surveyed. To quote Alfred S. Tauber, "No one likes a library or an information center. Their very existence is a consequence of economics. Since individuals cannot afford to own all the items they desire, they band their books together with others into libraries to expand the collections available to them. They are even willing to pay the price of delay in availability of information because of limited budgets."[9]

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9. Alfred S. Tauber, "The Facts of Life About the Man-Information Interaction", chapter 6 of Electronic Handling of Information: Testing and Evaluation, edited by Kent, Taulbee, Belzer and Goldstein, 1967. p. 64.

Looking at the number of outside library consultations, we find that even though agencies prefer their own collections, they do use libraries. Adding up the total number of library consultations, we come to 141 library consultations made by 38 agencies, or an average of 3.7 library consultations per week per agency. If we wish, we can divide 141 by the total number of reporting agencies, 58, for the likelihood that an agency will consult some library during the course of a week. This gives us 2.4 consultations per week. In other words, a little more often than twice a week, on the average, an agency or organization involved in urban affairs can expect to consult a library other than their own.

To which libraries do they turn? The top five are:

40%	Milwaukee Public Central Library
21%	University of Wisconsin-Milwaukee Library
12%	Milwaukee County Law Library
10%	Madison libraries
9%	Milwaukee Legislative Reference Bureau (City Hall)

However, the number of consultations made at these libraries changes the order somewhat: (Percentages are of 141 consultations)

36%	Milwaukee Public Central Library
21%	University of Wisconsin-Milwaukee Library
12%	Milwaukee Legislative Reference Bureau
7%	Milwaukee County Law Library
6%	Madison Libraries

The two factors which appear to operate here are proximity and size of the collection. The Milwaukee Public Central Library,

with over two million volumes and a downtown location, meets both criteria for intensive use. The University of Wisconsin-Milwaukee Library, with over one million items, although located several miles from downtown, attracts users, it would appear, because it is more likely to have a particular item than a smaller, but closer, library. The fact that it is open twenty-four hours daily might also be a factor in encouraging its use by the community.

The rather surprising use made of libraries in Madison could reflect nothing more than general mobility of the persons surveyed, who were often heads of their respective agencies. On the other hand, it could reflect a tendency to turn to a hierarchy of information sources more closely connected with the normal chain of command than with anything else. This hypothesis states that "my" library sources are those connected with the agency I work for, so that a state agency in Milwaukee, for example, might phone Madison on the direct line to locate a particular item in preference to calling a Milwaukee County source located across the street. If this hypothesis is true, then we should expect to find the Wisconsin office of a federal agency calling the agency's library in Washington, D. C. in preference to calling a library in Milwaukee or Madison.

A comparison of library usage by public, private, quasi-public and profit-making organizations shows that quasi-public

planning agencies used outside sources not at all, but were heavy users of their own libraries. City and county governmental offices used their respective libraries more intensively than other sources (city hall employees turned to the Legislative Reference Library; county courthouse employees turned to the County Law Library), but all used Milwaukee Public Library even more. In terms of numbers of library consultations by an individual, a gentleman representing one citizen group beat all the rest -- he reported thirteen library consultations in the previous week. We can probably safely assume he is a very well-informed person.

The next question was designed to discover the general satisfaction of the community with their library service, but was extended by interviewees to cover all their searches for information.

Q. 2.2a. In general, were your information needs satisfied?

All the time
Usually
Sometimes
Not usually
Never

2.2b. (If your needs were not satisfied), can you tell me why?

N = 74 R = 58 = 78% No reply = 16 = 22%

All the time	18	31.0%
Usually	25	43.0%
Sometimes	13	22.5%
Not usually	2	3.5%
Never	0	0

In general, 74% of those replying to this question were satisfied "all the time" or "usually," while 26% were not as satisfied.

Comments came from sixteen respondents on the nature of their dissatisfactions. Both "not usually" replies were from government agencies. One commented that he felt he did not get enough search assistance from librarians with a subject interest in urban affairs -- all he got was clerks. He also felt he deserved to be treated "better" than someone looking in the library for a light novel to read.

Of the rest of the comments, six indicated problems with how to go about looking in printed material for statistical data, whether a particular statistic had ever been gathered, or problems with unavailable or not released statistics. Non-availability of a particular statistic was a recurrent theme, indicating the importance of this type of material. Currency of materials was cited by five respondents -- the latest available is what they need. One commented that catalogued holdings at Milwaukee Public Libraries were too often out, lost, or stolen, frustrating the search for the particular information needed at the moment.

Heavier library users also evidenced slightly more dissatisfaction than lighter users of libraries, indicating that research literature searches are more frustrating than many would like.

These findings corroborate those found by Nelson Associates in their interviews with Michigan government officials.[10] They found that:

1. The need for current information is the dominant reference requirement of the government officials interviewed.

2. Several sources are relied on for such information, including office files and reports, counterpart officials, U. S. government publications, and local libraries.

3. Speed of access is usually important; answers to questions are frequently needed immediately. This limits use of libraries to those on-site or nearby, and discourages inter-library loans.

Question 2.3 was designed to determine the structure of the literature. Results are as follows:

Q.2.3 What sources of in-house information do you usually use in connection with your work? (Present list)

N = 74 R = 67 = 91% No reply = 7 = 9%

10. Nelson Associates, Inc., New York, N. Y., Reference and Research Library Needs in Michigan: A Study of Resources, Needs and Patterns of Use with Recommendations for Improvements in Service. Prepared for Michigan State Library, Lansing, Michigan, 1966. p. 48. ERIC Document ED-021-569.

Sources of Printed Information

Rank	Type of Material	Number	Percent
1	Government documents (unspecified)	62	93
2	Newspapers	61	91
2	Published reports (unspecified)	61	91
3	Federal government documents	58	87
3	Newsletters or professional "what's new" service	58	87
4	Professional journals	55	82
5	State of Wisconsin government documents	53	79
6	Directories (unspecified)	49	73
7	Social Service directories	47	70
7	Books	47	70
8	Internal memo	45	67
9	Directories of government officials (unspec.)	44	66
10	Milwaukee County government directory	42	63
11	State of Wisconsin government directory	39	58
11	Milwaukee County government documents	39	58
12	City of Milwaukee government documents	37	55
13	City Directory (Polk, Bressler)	35	52
14	City of Milwaukee officials directory	31	46
14	General magazines (Time, Newsweek, etc.)	31	46
15	Directory of federal officials	28	42
16	Miscellaneous directories	22	33
17	Government documents of other jurisdictions	2	3

In connection with two of the items mentioned, additional information was sought. Respondents were asked to name the newspapers they read and asked if they cut out articles. They were also asked to name specific newsletters they read regularly. Besides the two daily Milwaukee newspapers, the Journal and Sentinel, respondents read the Wall Street Journal, the New York Times, Chicago Tribune, the Washington Post, Madison newspapers, and just about every locally published weekly. 87% reported they cut out articles of interest.

The surprising thing about the names of newsletters was that no two agencies mentioned the same ones. Most were highly specific to one topic, such as physical rehabilitation, and most were national in scope.

Results of this question reinforce the hypothesis that "who's doing what" is of great concern, with "who's doing what in Washington, D. C." probably the greatest concern of all.

A few clear differences emerged between various sectors, although the overall picture was similar. As would be expected, the social service agencies made heavy use of directories, and the profit-making organizations used internal memos and predigested information. Government agencies used professional journals more and relied less heavily on general magazines than non-governmental agencies. A few smaller social service agencies indicated sufficient unfamiliarity with the types of literature available to call for more of an information education effort, aimed at their particular information problems.

The next series of questions was designed to discover how many people were engaged in information-gathering and what kinds of information they were seeking.

Q. 3.0. How many people are there in your agency altogether?

N = 74 R = 74 = 100%

The question was vague and poorly worded. Some respondents interpreted the question to mean "how many people do you work with in your immediate office" while others gave as an answer their entire organization's personnel count. The minimum was 1, the maximum 6,500. As an indication of people's perceptions, however, the question proved interesting. Overall, 50% of the respondents reported working in agencies of fewer than 25 people, while only 7% reported working in agencies of 1,000 or more people. This seems to indicate that people tend to think of "their" group as being relatively small, no matter how large the overall organization may be.

Q.3.1a How many people in your agency, organization, or library spend time gathering information?

N = 74 R = 71 = 96% No reply = 3 = 4%

In agencies of less than 25 people, most reported 80% to 100% information-gatherers. Above this size, information-gathering seems to become specialized, with a small number of people, perhaps only one, doing the bulk of the work. Planning agencies had a larger percentage of information-gatherers than other organizations, with educational institutions reporting that each person was responsible for their own information work. A rough estimate of the size of the community covered by the survey was made by simply adding together the numbers of information-gatherers given. This came to 1,538, indicating

that a sizeable community exists for information service. The greatest number of library consultations was reported by agencies having twenty to forty-nine persons.

Q. 3.1b In general, is this information mainly:
for the general public
for people within your parent organization, but outside of your immediate office
for use in your immediate agency or for yourself

N = 74 R = 71 = 96% No reply = 3 = 4%

Twenty-two agencies responded to more than one category.

Information Gathered

	Public agencies (% is of those responding)		Private agencies		Overall, including Quasi-public and profit-making agencies	
	No.	%	No.	%	No.	%
for general public	8	27	13	41	26	37
for parent organization	7	23	16	50	31	44
for immediate use	21	70	24	75	51	72

Overall, the bulk of information gathered is for one's own use or for the use in one's immediate agency. Private agencies seemed to be more communication-conscious than public agencies, including, as expected, 10% who indicated all of their information-gathering work was for the general public as part of their social service activities.

Q. 3.2 Is this information usually:
social service referral information
help in locating literature
help in locating or analyzing statistics
other

N = 74 R = 68 = 92% No reply = 6 = 8%

Twenty-seven agencies replied to more than one category.

Purpose of Information Gathered

	Public agencies (% is of those responding)		Private agencies		Overall, including quasi-public and profit-making agencies	
	No.	%	No.	%	No.	%
social service referral	6	20	16	55	26	38
locating literature	7	23	10	35	21	31
locating and analyzing statistics	16	53	17	59	41	60
other	12	40	8	28	22	32

Overall, the highest percentage of information gathered is of a statistical nature -- locating, analyzing, interpreting "how-plex" information. "How many people are there in the following human situation" is closely followed by "How much money does it take to perform the following functions?". In the "other" category came educational, curriculum, and related information, legal information, and status of current legislation at all levels of government.

The next three questions together formulate one set of replies. Differences between answers to Q. 3.3 and Q. 3.4 can be considered an indication of relative frequency only. Thus, topics garnering more than their usual percentage of information inquiries constituted specific information needed in the spring of 1973. From an examination of the data, these topics were communications, intergovernmental relations, and public

administration. (Properly, questions 3.3 and 3.4 should have been asked in reverse order.)

Q. 3.3 (Hand card) Please indicate about which of the following subjects you personally have had occasions to acquire information during the past week.

N = 74 R = 66 = 89% No reply = 8 = 11%

Q. 3.4 Please indicate which subjects your agency generally concerns itself with.

N = 74 R = 73 = 99% No reply = 1 = 1%

Q. 3.5 Are there any other areas that were not on the list, which you have needed information about in connection with your work in the past week? If so, what were they? R = 34 = 46%

	Usual Concerns	Past Week
child care	45%	35%
citizen attitudes	47%	41%
citizen participation	51%	49%
communications	43%	46%
consumer affairs	47%	27%
culture and recreation	41%	33%
economic development	52%	50%
education	66%	61%
employment	64%	59%
equal opportunities	52%	33%
health	52%	38%
housing	59%	49%
intergovernmental relations	47%	53%
physical planning	36%	32%
social planning	55%	52%
poverty	58%	41%
zoning	30%	26%
public administration	36%	41%
public safety	22%	14%

	Usual Concerns	Past Week
public works and sanitation	19%	18%
race relations	41%	29%
transportation	49%	42%
welfare	53%	42%

Strong similarities were found between public and private agencies in terms of information requirements.

Although education was the topic of concern to more of the agencies on an overall basis, it was not as strong a topic with all segments surveyed. Employment was the topic which was the only one to be a continuing concern of more than 50% of the agencies, both public and private, and which also constituted an information need in the previous week for more than 50% of public and 50% of the private agencies. Information on employment, from all and every viewpoint, can be considered the number one subject.

Subjects of continuing concern to more than 45% of all segments and the topic of an information inquiry in the previous week were:

economic development
housing
intergovernmental relations
social planning (except profit-making)

Education was the number one topic for the private agencies, garnering a whopping 82% of information needed the previous week and 79% rating it as a continuing concern. Low topic on the totem pole for the private agencies was public works and sanitation, with 14% requiring information the previous week and 18% listing it as a

continuing concern.

The number one topic for the public agencies was employment, with 59% needing information the previous week and 60% calling it a continuing concern. Last on the public agency list was public safety, with 10% calling it an information topic in the previous week, and 17% naming it as a continuing concern.

Public works, sanitation, and public safety agencies were not represented in the sample, accounting, in part, for their low ranking in terms of agency information needs. In addition, these are considered highly specialized topics, of a more technical nature than others listed, and therefore requiring specific information at specific times. It is also possible, as we will see later, that agencies have simply given up trying to get information.

As would be expected, more information was needed by public agencies on physical planning and zoning than by private agencies; while private agencies needed more information on child care, consumer affairs, education, equal opportunities, poverty and race relations than public agencies.

Topics not listed, and named by both public and private agencies, included general demographic and census data, legal matters, and the status of legislation.

Also named as information topics by public agencies were:

environment and pollution
taxation and public finance
technological developments
projections and forecasting
youth development
horticulture and agriculture
home economics
building codes and building inspection
licensing procedures
statistics on physical disabilities
data processing
court procedures

Quasi-public agencies listed demographics, mental health, social health problems (including alcoholism and drug abuse), and congressional activities.

Private agencies listed as additional topics:

social security
handicapped and disabled
minority business
rehabilitation of people
funding information
community planning
cost of living
youth relations
international economic statistics
federal budget information
foster homes, adoption
immigration
effectiveness measures for social service
rape statistics
criminal justice and corrections

The next question proved to be particularly interesting.

Q. 4.1 In general, how important (on a scale of 1 to 5) are the following kinds of information to you: (1 = most important; 5 = least important). The same ranking can be used for more than one item.

a. Statistics (probe for specific type if this is ranked 1 or 2)
b. Directory (probe for specific type if this is ranked 1 or 2)
c. Which local library has a particular document that I already have information on (union catalog)
d. Brief abstracts
e. Annotated bibliographies (listings of printed materials on a topic with short descriptions of that material and where material can be found locally)
f. Complete articles or reports

N = 74 R = 70 = 95% No reply = 4 = 5%

The first item of note was that 35% of the social service agencies did not rank the document location - union catalog category at all. In addition, 29% of these agencies did not rank the annotated bibliography item, and 16% did not rank the complete articles item. While there could be alternative explanations, it seems more likely that they were not familiar with this way of talking about printed material and were uncertain as to what was being talked about. If this is truly the case, an increased educational effort is called for on the part of librarians to enhance their communication with such social service agencies.

Those agencies dealing primarily with legal matters were at first unsure if "brief abstracts" meant "abstracts of legal briefs" or "short descriptions of any material." The interviewers, once alerted to the problem, made sure the definition was explained before proceeding. One or two incorrect answers, however, might have slipped through.

The first analysis performed was percentage of all agencies ranking each item most important. This gives:

Item ranked #1 (most important)	% of agencies overall	public	% of respondents private	profit	quasi
Statistics	51	47	55	50	60
Directory	29	20	42	0	20
Complete articles	21	20	23	25	20
Brief abstracts	20	13	29	0	20
Annotated biblio.	17	17	23	0	0
Document location-union catalog	11	20	6	0	0

The second analysis was percentage of all agencies ranking items last or least important. This gives:

Item ranked #5 (least important)	% of agencies overall	public	% of respondents private	profit	quasi
Brief abstracts	27	27	26	75	0
Document location	23	23	16	50	40
Annotated biblio..	21	17	13	75	60
Directory	16	27	6	25	0
Statistics	4	7	0	25	0
Complete articles	4	10	0	0	0

Another analysis performed was to compile a list by percentage of all rankings.

Item	Overall Percent
Statistics ranked #1	51
Complete articles ranked #2	34
Directory ranked #1	29
Brief abstracts ranked #5	27
Statistics ranked #3	26
Complete articles ranked #3	23
Directory ranked #4	23
Document-location union catalog ranked #5	23
Annotated bibliographies ranked #5	21
Complete articles ranked #1	21

And the final analysis assigned a point score to each ranking (1 = 5 pts., 2 = 4 pts., 3 = 3 pts., 4 = 2 pts., 5 = 1 pt.).

Statistics	275 points
Complete articles	236 points
Directory	216 points
Brief abstracts	185 points
Annotated bibliographies	168 points
Document location-union catalog	147 points

The data seems to clearly indicate that statistics as a class of information can be considered more important to Milwaukee agencies than directory-type information. Types of statistics cited were generally directly related to work being performed, with the only commonality a reliance on U. S. Census statistics and those published by the Bureau of Labor Statistics.

Complete articles and reports are definitely preferred over brief abstracts or annotated bibliographies when it comes to type of presentation. This can be explained in two ways. (1) Abstracts of statistical material tend to be less useful than complete data, and (2), when doing research on a topic, literature searches are performed most directly by looking up the citations and references given in the first documents discovered.

Brenda White found, in fact, that planners use citation references above all other printed material location devices, second only to colleagues in their own department as a first approach to

information.[11] Without the complete document, citations are not available and subtle points not shown. (This also points up the timely availability of Social Science Citation Index, published in 1973 for the first time as a companion to Science Citation Index.)

The phrasing of the item considered least important by most of the agencies perhaps led to its low status. Presenting the notion of a union catalog of library holdings to persons unfamiliar with the concept by emphasizing its document-locating facet may have been an error in judgement. If the wording had been something like "a method of finding out what all the local libraries have", the results may have been different. This point comes up later and will be discussed in more detail in the section on computerization.

In light of the previous findings, the next question shows how prepared the agencies are to accept microform materials.

Q. 4.2 Does your agency have facilities to handle microfilm? Yes/No. Microfiche? Yes/No.

N = 74 R = 73 = 99% No reply = 1 = 1%

	Overall	Comments
Microfilm facilities available	19%	100% for profit-making organizations
Microfiche facilities available	16%	30% for public agencies 3% for private agencies

11. Brenda White, Planners and Information, Library Association, London, 1970, p. 82

Q. 4.3 In general, would you say your information needs tend to be of a theoretical nature or more practical, such as "how to do it" or "who in town collects this kind of data?"

N = 74 R = 73 = 99% No reply = 1 = 1%

	Overall	Comments
Mainly theoretical	10%	"Mainly theoretical"
Practical	57%	category includes only
Both	33%	one social service agency

Q. 5.1 In general, are your information needs of a general nature or on the following geographic levels?

Federal or national
State
Southeast Wisconsin seven-county region (Milwaukee, Ozaukee, Washington, Waukesha, Racine, Kenosha, Walworth Counties)
Milwaukee SMSA (Milwaukee, Ozaukee, Washington, Waukesha)
Milwaukee County
City of Milwaukee
Neighborhood

N = 74 R = 72 = 97% No reply = 2 = 3%

Q. 5.2 Of all the geographic levels mentioned, which do you consider most important for your work?

N = 74 R = 66 = 89% No reply = 8 = 11%

Overall, the rank order was (based on results of Q. 5.1 and 5.2):

1. Milwaukee County
2. City of Milwaukee
3. State of Wisconsin
4. Milwaukee SMSA
5. Neighborhood
6. Federal or national tied with SE Wisconsin
7. General

The differences between segments of the survey were considerable with regard to geographic levels and their importance. More public agencies (80%) mentioned the county level than any other. More private agencies (68%) mentioned the city level than any other. All the profit-making organizations mentioned the federal level and all the quasi-public and planning agencies mentioned the state level. It would be safe to say that agencies in Milwaukee watch developments in the county and city closely while keeping one eye peeled for doings in Madison and Washington.

Q. 5.3 Does your agency spend a lot of time finding out the latest government departmental rules and regulations? Yes/No. If yes, which government department's rulings most directly concern you?

N = 74 R = 73 = 99% no reply = 1 = 1%

Spend a Lot of Time on Government Department Regulations

	Overall
Yes	53%
No	47%

More than half of the agencies surveyed indicated they spent a lot of time keeping up with administrative departmental rules and regulations. This held for 47% of the public agencies and 59% of the private agencies. Thirty-eight respondents men-

tioned at least one agency by name. For the private agencies, this was usually the sub-sections of the Department of Health, Education and Welfare and the Wisconsin Department of Health and Social Services. For the public agencies, this was usually the U. S. Department of Housing and Urban Development, although they, too, were concerned with HEW departmental rule changes, and were also concerned with the Office of Management and Budget. Answers to this question reinforce the importance of developments at the federal level to urban agencies of all kinds.

Q. 6.1 If you were asked to list the kinds of information you need but can't get, what items would you include? (Instructions to interviewer: probe for specifics.)

N = 74 R = 51 = 69% No reply = 23 = 31%

More current, more detailed, and just plain more statistics was mentioned by 23 agencies. The thread of "who's doing what" both within and without the region also comes out strongly in the answers to this question, as does the need for better communication between segments of the community and legislative bodies as they deliberate and governmental departments as they change their rules and regulations. Four agencies mentioned information from the City of Milwaukee Police Department specifically as being unobtainable. One mentioned information from the Department of City Development as being difficult to get.

The complete list follows, first from public agencies, then from private agencies.

Public Agencies: Feel they need but can't get

- multi-dimensional demographic data (e.g., age-income-occupation)
- "how to do it" information from successful businesses
- data on census tract basis for more census items
- data on social service levels for SE Wisconsin by county
- social service "needs" formulas
- income data on small units of government
- pricing of governmental services
- taxation data for small units of government
- social data which gives rise to a government's ability to finance itself
- comprehensive cross-reference directory of who's working on what in county and city agencies
- more current population and income data
- more details on types of data kept by city departments
- shoreline erosion data
- information on the court system
- current activities of other governmental units both within and out of the state
- comparison of welfare statistics with other units
- priorities of city and county governmental units
- formulas for generating housing needs and current market data on the housing situation in Milwaukee
- annual and on-going estimates of socio-economic data
- more current census data
- more timely market data for businesses
- perceptions of individuals regarding education in general
- information from the Milwaukee Police Department
- statistical information on health care, health problems
- experiences of other governmental agencies across the nation
- more explicit instructions on interpretation of government departmental rule changes, more up-to-date information on changes in rules and regulations
- special reports from consulting firms
- hard data on costs and results of programs
- small area incidence of disease and disability
- health services utilization -- small area data

Private Agencies: Feel they need but can't get

- data from other cities on minority business successes and failures

exact definition and numbers of business starts and terminations
budgets of government agencies for minority programs
copies of bills as they are introduced (3 mentions)
police department information; crime statistics by census tract (3)
equal employment statistics
information on funding sources
who's who on the local union scene
Milwaukee County business directory, including number of employees, volume of business, etc.
import-export information for the region by county
information on the court system
more and more current housing data, including vacancy rates by number of bedrooms and ownership patterns
interdepartmental rulings on county and city level
day care statistics
decent collection of newspaper articles
administrative policy decisions, all levels of government
federal laws and regulations on a current basis -- these come as a surprise much too often
compilation of Wisconsin and federal laws and rulings on juveniles
examples of workable alternatives to incarceration
more current census-type data
current information on physical rehabilitation needs -- statistics on physical disabilities
rehabilitation efforts in other states
efficiency of social service agencies
who to contact for information in government agencies
what data is held by the Department of City Development
community resource directory for recreation and educational programs
central audio-visual service and information on audio-visual materials
social service directory (public and private) for the state

If the above lists are considered "shopping lists" for information, they represent a formidable challenge to the information providers.

The next question also deals with information problems.

Q. 6.2 What are the most serious informational problems you have at the present time?

a. accessibility (too far to go to get materials)
b. convenience (too much trouble to get materials)
c. unavailable information (such as unorganized raw data or non-existent or not released information)
d. manpower shoprtage (can't find qualified information people; no money to hire people; secretaries aren't information-oriented)
e. time constraints within organization
f. lack of knowledge of what information is available
g. lack of knowledge of where information can be found
h. timeliness of information (out of date)
i. other (specify)

N = 74 R = 70 = 95% No reply = 4 = 5%

Types of Informational Problems

	Overall	Public agencies	Private agencies
Have no problems, we dig until we get what we need	6%	10%	0%
Have problems	94%	90%	100%
accessibility	21%	10%	34%
convenience	27%	17%	38%
unavailable information	64%	62%	63%
manpower shortage	49%	21%	75%
time constraints	51%	45%	56%
lack of knowledge of what information is available	31%	28%	28%
lack of knowledge of where information is available	31%	28%	34%
timeliness of information	46%	48%	41%
other problems	24%	21%	34%
specific problems with library service	10%	3%	19%

Overall, the rank order of problems is:

1. unavailable information
2. time constraints within organization
3. manpower shortage

4. timeliness of information
5. lack of knowledge of what information is available and where information is available
6. convenience
7. accessibility

Unavailable information, cited by more agencies than any other problem, is not something that can be easily remedied. Suggestions can be made, such as increased release of data, improved communication, and the like, but the basic problem exists because many of these agencies are at the cutting edge of research on a particular problem, and what they need is beyond the normal information requirements of the community. In this regard, urban agencies are more like scientific researchers than had previously been believed.

Other listed problems are more amenable to solution. For public agencies, time-related problems (timeliness of information, cited by 48%; time constraints within organization, cited by 45%) can be alleviated by modern information dissemination techniques. For private agencies, their manpower shortage, cited by 75%, and their time constraints, cited by 56%, can also be alleviated by modern information dissemination techniques, which substitute pre-digested, current awareness notices called Selective Dissemination of Information for the laborious process of going through reams of documents. This, however, must be coupled with some technique for providing complete copies of

wanted documents if the answer to Q. 4.1 is an accurate assessment of their desirability.

Private agencies in general seem to have more information problems than public agencies. While 45% of the public agencies listed one or two problems, and only 3% listed seven or more, 13% of the private agencies listed seven or more and only 19% mentioned one or two. A number of the private agencies, in fact, could be called "information ignorant". It can only be reiterated that a greater educational effort on the part of librarians would be of considerable utility to social service agencies and community groups.

Specific problems with library services were mentioned by seven agencies. These included communication problems with librarians, need for research carrells and typewriters at the Milwaukee Public Library Central Library, a mechanical checkout system for the public libraries, expanded law library facilities, new publications received by the libraries not publicized enough, libraries are too geared to serving the general public and students and not enough to researchers who need the materials for their daily work, microfilm problems, and photo-reproduction service problems.

The general impression one gets is that urban agencies tend to view information from a viewpoint somewhere between

that of the planner, who needs hard data more than any other type of information, and that of the businessman, who wants libraries to correct his incomplete or erroneous references, wants libraries to lend journals, wants photocopies to keep in spite of any copyright regulations, prefers the library take responsibility for obtaining documents from other libraries or other sources, and wants delivery or messenger service in violation of the library principle of individual charge-out responsibility.[12]

In an effort to determine the acceptability of mechanical information dissemination, the next section focused on computers and computerized information. A number of agencies around the country have gone beyond the concept of in-house computer services to computer services by wire or over telephone lines. Lockheed Information Services, for example, offers an online, interactive retrieval system for searching a variety of bibliographic files. The only mechanical device an agency needs is a computer or teletype terminal and a telephone. Such services, however, depend on an available data base of considerable size. They also tend to be expensive ($25 to $50 per search hour).

The Asheville-Buncombe County Metropolitan Planning Board of Asheville, North Carolina, contracted with Eric Hill Associates, Inc., to perform a survey to determine the kinds

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12. Brenda White, Planners and Information; Charles P. Bourne et al, Preliminary Investigation of Present and Potential Library and Information Service Needs, p. 43.

of information their community would like to have available via computerization.[13] The seven hypothesized applications included a Services Referral System for services offered by various agencies and governmental departments, Vacant Housing Information, a Complaint Processing system, Planning Information needed by the public such as code enforcement, zoning, demographics, trend analysis, etc., Central Utility Payments, Job Opening Information and a Voter Registration Service. Services Referral received the top priority, followed by Vacant Housing, Complaint Processing, Planning Information, Job Openings, Central Utility Payments, and Voter Registration. The primary problem with planning information proved to be the cost factor to create the data base.

In Milwaukee, the Wisconsin State Employment Service has a computerized job-search system which could be adapted to the mechanism of time-sharing remote terminals. Other information on employment, needed by various agencies, could be made available by the analyzing agencies to the consumer agencies on a regular basis by means of computer print-outs at first, and eventually by online interactive terminals.

A central social services directory data base is currently under development by the Community Relations-Social Development

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13. Citizens Information Needs Analysis and ABIS Citizens Applications, prepared by Eric Hill Associates, Inc., Atlanta/Winston-Salem/Jacksonville for the Asheville/Buncombe County, North Carolina, Metropolitan Planning Board, September 1972.

Commission in Milwaukee County and United Community Services. This data base has been designed with computerization in mind, and also could be available, eventually, on an online, interactive basis.

The questions asked in the information needs survey on computerization presumed that most agencies were familiar with the notion of a computer, but were unfamiliar with the concept of online terminals. As a result, the interviewers were briefed on what the hardware looks like, what "online" means, and what "interactive" means. In addition, a standard paragraph was read to each respondent describing briefly what they were to consider in answering the questions.

This paragraph was worded as follows:

"Recent developments in computer technology allow people like yourself to have access to vast amounts of information by means of an on-line console which is similar to a typewriter. This desk-top console is connected (or on-line) to a computer by means of a telephone. To ask the computer a question, you merely use the console keyboard to type in your own inquiries. This may be easily learned after some training in how to do it properly. First, we shall ask a series of questions as if cost were not a factor, then we will get into cost constraints."

Q. 7.1 If some of the information you need to know were made available by means of a desk-top unit, how likely would you be to want to learn to use it personally, forgetting about the cost of such a unit?

N = 74 R = 71 = 96% No reply = 3 = 4%

	Overall		
	#	%	
Very likely	39	55	No significant differences were noted between segments
Likely	10	14	
Not very likely	7	10	
Not at all	15	21	

Opinions were quite strong either way. Sixty-nine percent of the agencies could be said to favor the concept, as a personal information tool, with 31% cool to the idea. Those who answered negatively were asked why they felt the way they did. Four replied that they were administrators, not data collectors or analyzers; three cited time factors, one felt the technology was not yet developed to the point where it was reliable enough, two felt their particular information needs were unique and could never be handled by a machine, one said they preferred people to machines for their agency, and one said flatly he wasn't interested. Answers to this question and the next definitely deal a blow to the idealized concept of a console on every administrator's desk.

Answers to the next question, however, indicate the place administrators see for such mechanical aids.

Q. 7.2 How likely would other information users in your organization be to want to learn to use it?

N = 74 R = 68 = 92% No reply = 6 = 8%

	Overall #	%
Very likely	47	69
Likely	11	16
Not very likely	4	6
Not at all	6	9

Thus we see that 85% of the agencies are receptive to the idea as a staff tool, with 15% not in favor. Eight of the agency respondents who said they were unlikely to use the console personally, endorsed the idea for their agencies. Ten agency respondents replied negatively both for themselves and for their agency and were asked no further questions in this section.

Q. 7.3 Would you use it personally if:

Extensive training was required? Yes/No
A few hours training was required? Yes/No
Anyone could use it after a few minutes training? Yes/No

N = 74 R = 59 = 80% No reply = 15 = 20%

	Overall Yes	No
Extensive training	37%	63%
Few hours training	81%	19%
Anyone could use it	86%	14%

Of those who replied affirmatively either for themselves or for their agencies, or both, ease of use was a definite factor. Of the 22 administrative-level people who replied that they them-

selves were unlikely to use it or would not use it at all, six indicated they might try it if anyone could use the terminal after a few minutes training. Eighty-one percent indicated a few hours training would be acceptable. This, of course, means more sophisticated computer programming to enable simpler user instructions.

Q. 7.4 Would you suggest it for your agency if:

Three weeks training was required?	Yes/No
A few hours training was required?	Yes/No
Anyone could use it after a few minutes training?	Yes/No

N = 74 R = 58 = 78% No reply = 16 = 22%

	Overall	
	Yes	No
Three weeks training	59%	41%
Few hours training	97%	3%
Anyone could use it	97%	3%

In spite of the fact that three weeks training might be required to train a staff person to use the console properly, 59% of the respondents indicated they would be willing to have someone trained. However, 97% felt a few hours training was better, or, in other words, make the system as simple to use as possible.

Computer terminals or consoles are capable of two types of information display, printing on paper or images on a television-like screen. For the type of information being discussed here, the type of display should ideally combine a video display with a

printing capability. Unfortunately, only one such machine is currently available, and it is very expensive. An anternative is two machines, one video and one printer, located side by side, or separated so that the noisy printer is in a location where noise can be tolerated. Still another alternative way to combine the types of display would be to have the video display in the office and the printing done at the computer site (off-line printing). The next question was concerned with this problem.

Q. 8.1 If you were to use such a system, how would you like the information (or answers to your questions) presented to you? (Pick one)

a. In printed form, like a teletype-typewriter (this kind of machine tends to be noisy)

b. On a tv-type display screen (this kind of machine does not have printing capability)

c. Some kind of combination so I could search, using the tv and then have it printed out on the other machine

d. Some kind of combination so I could search using the tv and then have what I wanted printed out someplace else and mailed to me.

e. Don't like any of the above; I would prefer

N = 74 R = 60 = 81% No reply = 14 = 19%

	Overall
Combination, immediate print	57%
Printed form only	28%
Combination, remote print	8%
TV display (CRT) only	7%

One person indicated that in preference to all the above would be more inter-agency informal verbal and written communication. In terms of mechanical devices, however, more then 50% of the agencies would like to get as close to the ideal situation as possible; a cathode ray tube display for searching and a printing device to give them something to take with them to their desk. The fact that 28% of the respondents opted for the cheapest currently available hardware (teletype) can be said to indicate immediate interest.

Assuming a system was available and the hardware chosen, the next question dealt with location. The ideal would, of course, be a terminal in every office. The answers to this question can be said to indicate how practical the agencies wished to be.

Q. 8.2 If you were to use such a system, where would it be best located for your needs? (Pick one)

a. In my office
b. At some central point within the organization
c. At some central point within the building
d. At the closest library
e. At other area libraries
f. Other (specify)

Q. 8.3 If you felt you would like it in your office, but that were not possible, which other location would you accept?

N = 74 R = 60 = 81% No reply = 14 = 19%

Terminal Location

	Number	Overall Percent
Within organization	23	38
Within building	18	30
In my office	12	20
if not in my office, then:		
in the building	5	
at closest library	4	
in the organization	2	
other	1	
At the closest library	4	7
At other area libraries	0	0
Other	3	5

Physical proximity as a factor is important on the inside-the-organization vs. outside-the-organization continuum. In many cases, 'within the building' and 'within the organization' mean the same thing. With only 7% of those agencies replying to this question opting for a library location, it would appear that agencies are definitely interested in the remote access feature of a computerized system while evincing practical wisdom in down-grading the terminal-in-every-office ideal.

The next two questions dealt with the time factor. The ideal situation for an interactive, online system is twenty-four-hour-a-day service, possibly with some time-sharing installations at a cost not much more than regular computer service.

Q. 8.4 Which hours of operation would you consider to be most satisfactory?

a. just a few hours daily (specify)
b. 9 to 5
c. 9 to 9
d. 9 to midnite
e. 24 hours a day
f. other

N = 74 R = 61 = 82% No reply = 13 = 18%

	Overall #	Overall %	Comments
9 to 5 (office day	38	62	6 social service
few hours daily	10	16	agencies chose 24-
morning (9-12; 9-1)	4		hour-a-day service
afternoon (1-5)	2		compared to one
24 hours a day	8	13	govt. agency and
all other times	5	8	one profit-making organization

The probable reason that social service agencies seemed more interested in 24-hour-a-day service would be for the purpose of social service referral. For most agencies, 9 to 5 (roughly) would be their first choice, with limited service probably acceptable at first.

For non-interactive systems, one week turn-around is typical, with some installations taking longer. The reason for this is that requests usually spend 90% of their time in the office maze and only 10% of their time in the computer queue.

Q. 8.5 Would you consider it satisfactory if it took a few days to get the answer to your inquiry? Yes/No. If yes, how many days would you accept?

N = 74 R = 59 = 80% No reply = 15 = 20%

	Overall	Govern-ment	Social Service
yes, few days acceptable	54%	68%	35%
no, few days not acceptable	46%	32%	65%

There was a definite difference between governmental and social service agencies on this question. Again, we can consider the social service agencies to have in mind social service referral, although other factors, such as the availability to them for the first time of fast service, might play a part.

Of the 32 agencies who replied that a few days would be acceptable, 29% said two days or 2-3 days, 14% would accept 3-4 days, 8% would wait a week, and 3% would like both options -- immediate search and willing to wait for other answers.

With the time factor demonstrably important as a result of previous answers, fast turn-a-round seems to be imperative, if online searching proves not feasible.

Given the availability of an on-line system, the next questions dealt with what the agencies would like to have available on it. The wording of the question presumed that statistics were important, and by splitting the statistical item into two parts -- census statistics and other statistics -- hoped to pin-point the kinds of statistics agencies felt they would like. The result was a surprise.

Q. 9.1 In such a system, there are different forms in which the information can be made available. If there were only one of these available, which one would you like it to be? (hand card).

a. A listing of important books and government documents by title, author, subject, and where the material can be found. (Union catalog)

b. The same as (a), but with a short description of what is contained in each one listed. (Union catalog with abstracts)

c. Mainly census statistics

d. Mainly _____ statistics (fill in most important to you)

e. Mainly directory-type information

f. Mainly short resumes of articles from magazines and/or journals and/or periodicals

g. Other (specify)

N = 74 R = 63 = 85% No reply = 11 = 15%

	Overall	Govern-ment	Social Service
Union catalog with abstracts	36%	41%	33%
Statistics (items c and d)	26%	22%	26%
census statistics	13%	20%	4%
other statistics	13%	2%	22%
Short resumes	22%	18%	26%
Union catalog-no abstracts	11%	14%	11%
Directory	4%	5%	4%

Given the choice between the above items, more agencies preferred an online, interactive union catalog with abstracts than any other listed possibility, including statistics. Asked why, most of the agencies said census statistics were now too dated

(1973) to be needed quickly, and they did not believe other statistics could be entered in any data bank in the unique configuration they required. What they were hoping for was a constantly updated information bank on "who's doing what," or rather, "who's publishing what," especially with regard to new statistical studies.

The provision of abstracts, recent research has shown,[14] need not be as complicated as previously believed. Belzer's study, in fact, shows that inclusion of the first and last substantive paragraphs from a document as surrogates for a humanly prepared abstract is not only adequate, but in his study, was shown to be superior for decision-making about whether to request the complete document.

The only caveat that must be added here is that agencies will definitely want copies of the complete document, and, undoubtedly, would prefer not having to go to the library to see them, given their time and manpower problems. In the case of government documents, where copyright is no problem, xerox is probably the preferred form of reproduction for short items, with more lengthy documents provided by mailed microfiche.

The next question performed the same type of analysis on

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14. Jack Belzer, "Information Theory as a Measure of Information Content", Journal of the American Society for Information Science, Vol. 24, No. 4, July-August, 1973, p. 300-304.

ranking as question 4.1.

Q. 9.2 Now, please go back and rank the list in order of importance for your organization.

(1 = most important; 5 = least important. You may use the same ranking for more than one category.)

N = 74 R = 64 = 86% No reply = 10 = 14%

As with Q. 4.1, the first analysis performed was percentage of all agencies ranking each item most important. This gives:

Item ranked #1 (most important)	% of agencies overall	% of respondents public	private	profit	quasi
Union catalog with abstracts	44	44	45	33	40
Resumes of articles	27	22	31	33	20
Other than census statistics	23	7	34	0	60
Census statistics	20	26	14	33	20
Union catalog w/o abstracts	16	19	17	0	0
Directory	14	19	14	0	0

The second analysis was percentage of all agencies ranking items last or least important. This gives:

Item ranked #5 (least important)	% of agencies overall	% of respondents public	private	profit	quasi
Census statistics	28	30	31	33	0
Directory	27	22	17	67	80
Union catalog w/o abstracts	16	22	14	0	0
Other than census statistics	16	15	21	0	0
Resumes of articles	8	7	7	33	0
Union catalog with abstracts	2	4	0	0	0

The list by percentage of all rankings gives:

Item	Overall
Union catalog with abstracts ranked #1	44%
Union catalog, no abstracts, ranked #2	28%
Census statistics, ranked #5	28%
Resumes ranked #1	27%
Directory ranked #5	27%
Union catalog with abstracts ranked #2	23%
Other statistics ranked #1	23%
Resumes ranked #2	22%
Census statistics ranked #1	20%

And the final analysis, performed by assigning a point score to each ranking (1 = 5 points, 2 = 4 points, 3 = 3 points, 4 = 2 points, 5 = 1 point) is:

Union catalog with abstracts	237 points
Resumes	203 "
Union catalog, no abstracts	174 "
Census statistics	152 "
Other ststistics	149 "
Directory	135 "

The provision of information about documents is thus seen to be an appealing concept to the agencies surveyed.

Several of the agencies suggested other candidates for a computerized information system. These included annotated legal research, recent local legal decisions, outcomes of trials, a compilation of federal, state, and local laws and regulations related to housing, and an information system on the current status of bills introduced in the Congress, the Wisconsin Legislature, Milwaukee County Board of Supervisors, and the City of Milwaukee Common Council. One agency would like to see each issue of the

magazine Predicasts fed into such a system.

Twenty-five agencies nominated statistical material to be included. These included:

All the newest statistics
Business statistics
Population shifts
Current housing market (3)
Social service data (3)
Social problem related statistics (3)
Crime statistics by census tract
Park users
Fiscal information
Health (2)
Welfare (2)
Mental health statistics
Program data as received (how well programs are doing)
Immigration
Educational statistics
Benefits for the aged--utilization and information
Statistics related to the criminal justice system and the courts
Building permit statistics
Statistics on the handicapped

It would appear that with the present state of the computer art, only some of their wants can be handled.

The next question was designed to gauge the size of the information community we are talking about in Milwaukee.

Q. 9.3 About how many individuals within your organization use the kind of information we've been discussing?

N = 74 R = 58 = 78% No reply = 16 = 22%

The fifty-eight agencies responding to this question gave a grand total of 1,370 people, slightly fewer than given in Q. 3.1a, which was 1,538. We are talking, then, about almost 1,500 people, working in the nerve centers of the area, who would benefit from the proposed information system directly. How this direct benefit can be translated into indirect benefits will be discussed later.

The next two questions dealt with cost factors. Most of the agencies interviewed had no idea of the costs they could incur to have the advantages of the system under discussion. Many said it was not up to them to decide, since they were tax-supported institutions. Nevertheless, an attempt was made to determine the perceptions of the agencies with regard to cost. Estimates for actual costs must include about $1,500 for the cheapest teletype terminal for an agency, a one-time expense, and running expenses of about $10 to $25 per search. Given an average of two visits per week to a library, this means the budget for running expenses might run as high as $2,500 per year or as low as $250 for regular usage. Occasional usage, of course, would be less costly.

Q. 9.4 Given the existence of such a system with the one type of information you felt was most important, do you feel you could budget

under $100 a year
$100-$500 a year
$500-$1,000 a year
$1,000-$3,000 a year
$3,000-$5,000 a year
as much as it would cost

to have access to it?

N = 74 R = 31 = 42% No reply = 43 = 58%

	Overall #	% of those replying
under $100/year	10	32
$100-$500/year	9	29
$500-$1,000/year	5	16
$1,000-$3,000/year	5	16
$3,000-$5,000/year	1	3
as much as it costs	1	3

Of the thirty-one agencies who put a monetary value on the service, roughly one-third felt they could afford $100 a year or less, less than another one-third felt they could go as high as $500 a year, while only one lone agency said they would pay whatever it cost. Given the fact of central access to one terminal shared by several agencies, with cost-per-search kept as low as possible, the price does not seem out of the question. The cost of bringing up the original data base could even be a shared cost if single-source funding is not obtainable.

Q. 9.5 It is difficult to compute costs and benefits for information systems since the benefits of information are not directly measurable. Do you have any suggestions as to how such an analysis could be done?

N = 74 R = 14 = 19% No reply = 60 = 81%

Most agencies had no suggestions to offer. Of those who

did (fourteen agencies), six suggested time saved, three suggested a comparison for effectiveness of agencies who use the system vs. those who did not, three suggested increased volume of requests for documents would indicate community benefit, one would try to estimate cost of duplicate searches and consider lack of same a benefit, one would leave it up to the users to decide if the benefits were worth the cost, and one would place a dollar value on "fresh" information vs. "stale" information.

This will be discussed in detail in the chapter on costs and benfits.

Q. 10.1 Would your organization be willing to cooperate in an experiment in using such a system?

N = 74 R = 71 = 96% No reply = 3 = 4%

Use the System	Overall #	%
Our cooperation hinges upon the cost to us	41	58
Yes, we would cooperate	23	32
Our cooperation hinges on factors other than cost	4	6
No, we would not cooperate	3	4

If the cost factor is kept within bounds, an experimental system seems to have a willing audience.

Q. 10.2 Would you make available data from your in-house sources as input information for such a system?

N = 74 R = 67 = 91% No reply = 7 = 9%

Input Data to the System	Overall #	%
Yes, would make data available	48	72%
Would make some data available	5	7%
No, would not make data available	6	9%
Our office is not a generator of data or reports, unsure what we could supply	8	12%

With 72% of the respondents to this question replying in the affirmative, it would appear the original data bank could be a goldmine of information.

The last two questions dealt with respondents' computer experience. Major computer installations exist at City Hall, at the Milwaukee County Courthouse, and at the Southeastern Wisconsin Regional Planning Commission offices. Computing facilities are available to all the educational institutions. To the best of our knowledge, all state agencies with offices in Milwaukee work with computers located in Madison, while the federal offices seem to have no direct computing facilities at all. Of the social service agencies, only United Community Services seems to have computing facilities.

Q. 10.3 How much computer experience have you personally had?

N = 74 R = 72 = 97% No reply = 2 = 3%

Assessments of computer experience are necessarily subjective. Major differences were seen between segments of

the survey, with only 33% of the government agencies reporting no experience at all, compared with 61% of the social service agencies. Overall 46% of the total (33 out of 72 respondents) reported having no experience with computers at all.

On the other end of the scale, one respondent had been a computer operator, one was a systems programmer, five said they could program, four reported they could use 'canned' programs and six said they felt they knew enough to talk to programmers without major communications problems. These seventeen people, 24% of the total, could be considered computer knowledgeable. All the rest reported limited experience, usually in using output. (Two people reported they had served on computer advisory committees but were not themselves programmers.)

An assessment was also made of familiarity with online terminals. Thirty percent reported never having seen such a device. Forty-three percent had seen a terminal but never used one; only one said they would not care to try it. Of the nine respondents who reported their agency had online terminals, three reported they had never used it, three said they had, and three did not report. Surprisingly, another nine respondents, representing 16% of the respondents, reported they could use an on-line terminal but their agency did not have one.

Q. 10.4 Would you please tell me about how much computer experience your agency has, on the whole?

N = 74 R = 63 = 85% No reply = 11 - 15%

With twenty-two governmental and four non-governmental agencies reporting in-house computer facilities, a grand total of 51% of the agencies responding to this question said they used output. Sixteen agencies, five governmental and eleven non-governmental, reported no experience at all with computers, for an overall 25% with no experience. Six agencies, or 10% of the total, reported their agency has no computing facilities but employs computer knowledgeables. Only two agencies, representing 3% of the total, reported having serious problems with their computing service. Both these agencies used the same machinery and programming staff.

We can thus say that about half the sample had no computer experience at all, while the other half had at least some knowledge of what computers are all about.

There is one advantage to computerization which has not been exploited by those who generally develop such systems. There is no inherent reason why traditional file structures must be maintained. By this is meant both traditional library items such as author, title, publisher, etc. and in-the-machine files as well. Using word-processing editing programs for input and

string-search techniques for output, it is possible to feed into the data bank, and retrieve, anything which can be phrased in the form of a normal English sentence.

There are semantic problems with such a technique which cannot yet be completely solved, and there are technical problems as well, but the concept is feasible and has been used successfully on an experimental basis by the author.

If time is not a factor, eyeball scanning is, of course, to be preferred. However, there is no faster way to search a paragraph, a title, or a labeled statistical table word-by-word, with an eye to finding the one phrase you have in mind, than is currently available using machine techniques.

Using the results of the survey discussed in this chapter, the most likely candidate for data input would be a government documents-Milwaukee locally generated-information bank on employment, education, housing, economic development, intergovernmental relations and social planning.

V. Results of the Survey - Libraries

It had been expected that the same form which had been used for organizations could be used for libraries as well. Pre-tests showed this was not feasible, and the form was modified to reflect the library situation. The two pre-tests were, however, included in the analysis where practicable to give as large a sample as possible. For N=14, the pre-tests were included, for N=12, the pre-tests were excluded.

Results will be presented in the same manner as the previous chapter -- question by question.

The introductory paragraph read as follows:

> "The Library Cooperation Group of Milwaukee is conducting a survey of governmental, non-profit and private organizations regarding their information needs in order to enable Milwaukee area libraries to serve their patrons better. We are also interested in inter-library information exchange, and would like to ask you a series of questions about your library and its patrons."

Q. 1.1 What is the nature of your library?

There were fourteen libraries who replied. One was a large public library, one was a special library serving city government, two were special libraries serving county government, two were small college libraries, two were large college/university libraries (one public, one private), four were subject-specialized libraries (2 medicine, law, urban affairs), three of which were

housed in institutions of higher learning, one library served a post-secondary vocational institution, and one was a special library serving a social planning agency.

Nine libraries, 64%, were tax-supported; five were not. Ten libraries (71%) were physically located in the downtown area, seven (50%) within the one-mile oval discussed in Chapter III.

Q. 1.2 What is the geographic area served by your library?

N = 14 R = 14 = 100%

Four libraries named the city of Milwaukee, four named Milwaukee County, four said they served the Milwaukee SMSA, one served the seven-county SE Wisconsin region, and one served the state.

Q. 2.1 How often did you personally consult, or suggest that one of your co-workers consult, each of the following libraries during the past week?

N = 14 R = 14 = 100%

Two libraries reported no consultation of libraries other than their own. Consultation of one's own library averaged three times per day.

Name of Library	Consulted by	Average Frequency
Milwaukee Central Public Library	8 other libraries	2-1/4 per week
UW-M Library	8 other libraries	2 per week
Urban Observatory Library	5 other libraries	1 per week
Marquette University Memorial Library	4 other libraries	1 per week
Milw. Legislative Reference Library (City Hall)	4 other libraries	1 per week
Milw. County Law Library (Courthouse)	4 other libraries	daily by 2 libs. once each by other 2
Marquette University Law Library	no other libraries	* * *
Other libraries		
Medical College of Wisc.	2 other libraries	once each
UW-Madison Library	1 library	once
Madison Legislative Reference Bureau	1 library	once
John Crerar Library (Chicago)	1 library	once
Milw. Public Museum Library	1 library	once
Journal Co. Library	1 library	once
Univ. of California Law Library	1 library	once
Special local business and industrial libraries	1 library	* * *

Size of the collection could be said to be the most important attraction, with two million volumes housed at the Milwaukee Public Central Library plus a federal depository for U. S. Government documents dating from 1861. The next largest collection, over one

million items, is to be found at the University of Wisconsin-Milwaukee. Marquette University Memorial Library has about 600,000 volumes but until recently has not been open to the general community. The Milwaukee Legislative Reference Bureau was formerly a branch of the Milwaukee Public Library System. Until 1970, it housed a collection of about 74,000 volumes. After becoming a special library for city government, the collection was weeded, and as of May, 1973, reports holdings of 54,000 volumes. The two large local law libraries, Marquette University Law Library and the Milwaukee County Law Library, house 71,000 and 54,000 volumes respectively. The Urban Observatory library houses only about 3,000 items, but produces a monthly newsletter of bibliographic information on locally-produced reports and documents.

An assessment was also made of phone consultations vs. walk-in consultations. Of those who reported on this item, three phone calls were made for every two walk-in visits. It thus appears that librarians consult other libraries with about the same frequency that community agencies consult libraries.

Q. 2.2 How often did you personally suggest that one of your patrons consult the libraries mentioned during the past week other than your own?

N = 12 R = 12 = 100%

Four libraries referred patrons to no other library than their own, five libraries referred patrons, three said they did not know. Of the five libraries who referred patrons to other libraries, four referred them to Milwaukee Public Central Library, three to UW-M, two each to Milwaukee County Law Library and Marquette Memorial Library, and one each to the Journal Company Library (newspaper clippings), Marquette Law Library, Milwaukee Legislative Reference Bureau, Wisconsin College of Medicine Library, and the Urban Observatory library. All these referrals represented, at most, twenty patrons.

Several explanations can be given for the lack of referral. The most important is, of course, the desire to spare the patron the feeling of being given the run-around. The second is that librarians tend to want to exhaust the resources of their own collections before sending patrons elsewhere. And with inter-type library loans being what they are, it is easier for UWM, for example, to get a book from UW-Madison, ninety miles away, then to get one from the Milwaukee Public Library. This is not unique to libraries, of course, but is simply a manifestation of the in-the-organization hierarchy we saw operating among agencies in general.

Q. 2.3 What sources of in-house information did you

personally use in connection with your work within the past week?

N = 14 R = 13 = 93%

Type of materials	No.	% of respondents
Professional journals	12	92%
Newsletter of professional "what's new" service	11	85%
Published reports	11	85%
Newspapers	11	85%
Federal government documents	10	77%
Internal memos	9	69%
Directory of state officials	9	69%
Books	8	62%
State of Wisconsin documents	8	62%
Milwaukee County government documents	8	62%
City Directory (Polk)	8	62%
Directory of federal government officials	8	62%
General magazines (Time, Newsweek)	7	54%
Social Service Directories	7	54%
Other Directories	7	54%
City government documents	6	46%

Ten libraries reported they clip and file newspaper articles, for their own use. Public-access collections of newspaper clippings were not surveyed.

As with other agencies, library reports on names of newsletters revealed no two mentioning the same one. Names of newspapers also gave the same spread -- mostly the two local dailies and some New York, Madison, and Washington papers.

Q. 3.0 How many people are there in your library at this physical location altogether?

N = 14 R = 14 = 100%

The smallest number reported was one person; the largest was eighty-five. The grand total was 278-1/2 full-time-equivalents, giving an average of about twenty per library. The mode was eleven.

Q. 3.1 How many people devote:

100% of their time to reference work?
75-100% of their time?
50-75% of their time?
25-50% of their time?
Less than 25% of their time to reference work?

N = 14 R = 14 = 100%

There were 103 reference workers altogether, for an average of 7.4 per library. Only thirteen full-time reference people were reported, with thirty-five reporting 75-100% time at the reference desk, nine spend 50-75% on reference, twenty-seven spend 25-50% on reference, and nineteen spend less than 25% of their time on reference.

A rough approximation at full-time equivalents would leave sixty reference workers to serve a population of about 1,500 in government agencies and social service agencies alone.

Q. 3.2 How much of your reference work this past week would you say was:

for the general public?
for students in area colleges?
for other students?
for staff members of the larger agency of which you are a part?
for library business?
other?

N = 12 R = 12 = 100%

This question proved to be particularly difficult to answer. Three libraries simply checked off categories, one said it was impossible to make any assessment. However, some idea can be gained by determining the number of libraries who responded to each category. This gives:

Type of reference work	No. of libraries reporting	%
for staff members, faculty members	12	100%
for the general public	8	67%
for students	7	58%
for library business	6	50%
other	1	8%

It would be well to note that one library's "general public" would be another library's "staff member." Three libraries reported that all of their reference work was for staff members, one library placed the percentage at 90%. No library reported less than 10% reference service for staff members, while six libraries reported no reference work for students below the college level.

Q. 3.3 Please rank the following by frequency of help requested by patrons. (1 = most frequent, 5 - least frequent).

N = 12 R = 12 = 100%

Item Ranked #1 (most frequently requested help)	By Libraries #	%
help in finding the physical location of materials	5	42%
help in finding literature in general	5	42%
help in locating statistics	4	33%
help in locating and using periodical and other specialized indexes	2	17%
help in locating and using government documents	1	8%

A point system was also used to discover the most frequent type of help requested by patrons. Physical location of materials and help in finding literature in general both gave forty-four points out of a possible sixty, location of indexes garnered forty points, and help in locating statistics and government documents each rated thirty-six points.

With the manpower shortage as severe as it is in libraries, it would appear the simple expedient of providing more signs and other physical locating devices could do a great deal to help librarians devote more time to their library-related tasks.

Q. 3.4 Please indicate about which of the following subjects you have had reference questions to answer during the past week?

N = 14 R = 12 = 86%

Subject	Libraries #	%
child care	4	33%
citizen attitudes	2	17%
citizen participation	3	25%
communications	5	42%
consumer affairs	5	42%
culture and recreation	4	33%
economic development	5	42%
education	8	67%
employment	6	50%
equal opportunities	4	33%
health	7	58%
housing	7	58%
intergovernmental relations	4	33%
physical planning	4	33%
social planning	9	75%
zoning	3	25%
poverty	7	58%
public administration	4	33%
public safety	4	33%
public works and sanitation	3	25%
race relations	5	42%
transportation	4	33%
welfare	5	42%

The topics which garnered the most questions asked in libraries during the survey period were social planning, education, health, housing, poverty, and employment. Citizen participation, zoning, public works, and citizen attitudes were the least frequent topics for libraries during the same period.

A comparison with the same list's responses by agencies shows that libraries were consulted less frequently than agencies had questions on the topics of citizen attitudes, citizen participation. intergovernmental relations, public safety, and race relations. Libraries were consulted more frequently than agencies had

questions on consumer affairs, health, housing, social planning, public administration and transportation.

Of the top six topics for agencies: employment, education, housing, economic development, intergovernmental relations and social planning, the only one they did not consult libraries for information was on intergovernmental relations, as could be expected.

Q. 3.5 Are there any other areas, which you would include in urban affairs, that were not on the list, which you have had reference questions to answer in the past week? Yes/No. If yes, can you tell me what subject areas they were?

N = 14 R = 11 = 79%

Of the eleven libraries who responded to this question, six said they had no additional topics. The five libraries who did, listed environmental planning, status of federal legislation, employee relations, demographics, drugs and alcohol abuse, and occupations and the literature of occupations.

Q. 3.6 In general, how important (on a scale of 1 - 5) are the following to your patrons? (The same ranking can be used for more than one item)

N = 14 R = 14 = 100%

Statistics
Directories
Catalog information (does the library have a particular item)
Brief abstracts
Bibliographies
Annotated bibliographies
Complete articles or reports or books or documents

Item ranked #1 (most important to patrons)	# of libraries
Complete articles, books, etc.	8
Catalog information	8
Statistics	4
Directories	2
Abstracts	1
Bibliographies	1
Annotated bibliographies	0

On a point count basis, the order was: (out of a possible seventy)

Complete articles, books, etc.	57 points
Catalog information	49 points
Statistics	39 points
Directories	37 points
Bibliographies	33 points
Annotated bibliographies	30 points
Abstracts	30 points

Of those who listed statistics as important, types mentioned were census and demographic statistics, welfare statistics, economics, labor and employment, and airport usage.

It would appear that the libraries understand their patron's desire for complete documents in preference to abbreviated descriptions. They also seem to understand that statistics tend to be

more important than directories.

Q. 3.7 Does your library collect microform materials? Yes/No.

N = 14 R = 14 = 100%

Yes, collect microforms	10 libraries	71%
No, do not collect	4 libraries	29%

Q. 3.8 Does your library have microfiche viewing equipment? Microfilm viewing equipment? How do your patrons react to microforms, in general?

N = 14 R = 14 = 100%

Have microfiche viewing equipment	10 lib.	71%
Do not have microfiche equipment	4 lib.	29%
Have microfilm viewing equipment	9 lib.	64%
Do not have microfilm equipment	5 lib.	36%

Of the ten libraries that collect microforms, five report patron resistance, four report acceptance as just another form of materials, and one has stopped collecting microforms because of reported reading difficulty by patrons. Acceptance seems to be related to age of clientele. College students seem to accept this form of materials better than any other group, with the elderly the group which has the most difficulty. Reasons for this are not clear, but are probably a combination of mechanical, physical and psychological factors.

Q. 4.0 How many patrons, or what percent of requests, would you say dealt with urban affairs during the past week?

N = 14 R = 8 = 57%

This question proved to be as difficult to answer as the previous question on percentages of various types of clients. Of the eight libraries who replied, the special libraries serving city and county government reported 90-100%, the social planning library reported 100%, the medical and legal libraries reported less than 10%, and one of the university libraries reported 65-75%. The special urban affairs library, of course, reported 100%.

Q. 4.1 In general, would you say your patrons seem to need predominantly research or theoretical material, or more practical kinds of information, such as "how to do it" or "who in town collects this kind of data?"

N = 14 R = 13 = 93%

Both equally	6 libraries	46%
Research/theoretical	4	31%
Practical	3	23%

There appears to be a mis-match here in perceptions of libraries and agencies as to what constitutes "research or theoretical" materials and what constitutes "practical" information. This might prove to be an interesting point for further study.

Q. 4.2 In general, was the information your patrons needed during the past week:

of a general nature?
on the federal or national level?
on the state level?
concerned with the SE Wisconsin region?
concerned with the Milwaukee SMSA?
concerned with Milwaukee County?
concerned with the city of Milwaukee?
concerned with neighborhoods within the city of Milwaukee?

N = 14 R = 14 = 100%

General	10 libraries	72%
Federal or national	8	57%
State of Wisconsin	7	50%
City of Milwaukee	7	50%
Milwaukee County	6	43%
City neighborhoods	6	43%
SE Wisconsin	4	29%
Milwaukee SMSA	4	29%

The importance of information at the federal level is reinforced by replies to this question. Any other conclusions would be pure speculation.

Q. 5.0 Can you give me a specific urban affairs question that was asked within the past week?

N = 12 R = 12 = 100%

There were fourteen questions mentioned. Whether the people who asked the questions got the information they were seeking was not determined.

1. Question on desegregation of schools.
2. Health data for Milwaukee's eastside.
3. Is there a law that says if the temperature rises above a certain point and the air conditioning breaks down, employees can go home?
4. Voting trends in Milwaukee - 1890-1930.
5. Income distribution for small areas.
6. What is the history of rent control in the city of Milwaukee?
7. Question on environmental law.
8. What is the status of the Allied Services bill pending before Congress?
9. Census correlation with current wages.
10. What do city planners do?
11. What do you have on program development and evaluation?
12. Listing of comparative equalized tax rates for the city and surrounding suburbs.
13. Health care for day care children in poor neighborhoods.
14. What is the racial breakdown of dentists in Milwaukee's inner core?

Most of the questions reflect the librarian's interest in the "tough ones." But it is these questions, which stretch the present state of knowledge, that lead to new information. Six questions deal with statistics, one with the status of pending legislation, the rest are more general. This parallels closely agency replies.

Q. 5.1 How often within the past week have you, yourself, used or referred people to such federal documents as:

U. S. Code
Congressional Record
Federal Register
Code of Federal Regulations
Monthly Catalog

Governmental Technical Reports
Census Bureau publications
Department of Labor Statistics publications
Selected List of U. S. Government Documents
Fast Announcement Service

Q. 5.2 Which one would you say is most used in your library?

N = 12 R = 12 = 100%

Two libraries reported using none of these during the previous week. Frequencies were not given by enough respondents for proper analysis, therefore, a simple tabulation of number of libraries reporting use of each document was made.

Census Bureau publications	8 libraries	67%
Federal Register	7 libraries	58%
Monthly Catalog	7 libraries	58%
Government Technical Reports	7 libraries	58%
Selected List of U. S. Government Documents	7 libraries	58%
U. S. Code	6 libraries	50%
Congressional Record	6 libraries	50%
Code of Federal Regulations	5 libraries	42%
Fast Announcement Service	5 libraries	42%
Department of Labor Statistics publications	4 libraries	33%

Most used were, in order,

(Census Bureau publications
(U. S. Code
Monthly catalog
Congressional Record
(Code of Federal Regulations
(Department of Labor Statistics publications

County government special libraries and the law library plus one university library indicated U. S. Code was most used.

The city government special library, the social planning library, the urban affairs library and one university library indicated census bureau publications were used most often. Monthly Catalog was used more by the public library, one university library, and by the medical library. Selected List and Fast Announcement Service were used by the libraries for choosing material and not usually requested by patrons.

Q. 5.3 Which state of Wisconsin documents seem to be used most often?

N = 12 R = 11 = 92%

Blue Book	7 libraries
Wisconsin Statutes, Laws, etc.	5 libraries
State departmental statistical publications (welfare, public health, criminal justice)	4 libraries
Legislative bulletins and bills	3 libraries
Administrative Code	3 libraries
Governor's Task Forces final reports	3 libraries
Budget publications	2 libraries

Other state publications mentioned include unemployment insurance reports, Wisconsin Department of Revenue regulations, opinions of the Attorney General, Wisconsin Employee Relations Board publications, Wisconsin Taxes and Aid to Municipalities, List of Registered Physicians and Dentists, and the Census Tape

catalog published by the Census Clearinghouse.

Q. 5.4 Of all the geographic levels mentioned, which would you consider most important for your own work? For your patrons?

N = 14 R = 11 = 79%

Either the question was poorly phrased or something else is taking place, because the distribution was even across the board, with no geographic level being singled out, neither for the librarians themselves nor for their patrons.

Q. 6.1 If you were asked to list the kinds of urban affairs information your patrons seem to want but have trouble getting, what items would you include? (To inverviewer: probe for specifics).

N = 12 R = 9 = 75%

There were fourteen specific problems mentioned, of which six involve statistics, and all parallel replies by agencies.

1. Statistical data for small areas (2 mentions)
2. Statistical information on employment - current and small area
3. Information on discrimination in housing
4. Federal manuals for programs such as housing
5. Materials circulated in mimeograph form
6. Statistics on incidence of disease
7. Current Cable TV information
8. Funding availability
9. Program development, especially budgeting
10. Police and crime statistics by census tract
11. Number of welfare recipients by census tract

12. Updated demographic data
13. Current state and federal documents while they are still current (2 mentions)
14. Copies of state and federal documents from which press releases are taken

Q. 6.2 What are the most serious information problems your patrons seem to have at the present time?

Too many calls for the same material
Need materials before we can get them processed
Unavailable information (such as unorganized raw data or non-existent information)
No time to get to the library
No one in the office they can spare to get information
Lack of knowledge of what information is available
Lack of knowledge of where information can be found
Other (specify)

N = 12	R = 12 = 100%	
Unavailable information	9 libraries	75%
Lack of knowledge of where information is available	8	67%
Lack of knowledge of what information is available	7	58%
Too many calls for same material	4	33%
No time to get to library	4	33%
Need materials before processing	3	25%
No one in office they can spare	2	17%
Other	2	17%
parking problems		
citations wrong or incomplete		

While librarians agree with agencies that unavailable information is the most severe problem, they do not seem as aware as they should be of time and manpower problems. On the other hand, library perceptions are probably more accurate than agency

perceptions on the lack of knowledge of what materials is available and where it can be found.

Q. 6.3 What are the most serious problems your library seems to be having currently?

N = 12 R = 12 = 100%

A check-off box was provided for the interviewers to note those that indicated money problems, chronic with libraries. Eight libraries, 67% of those replying, mentioned money specifically. Other than money, space, and space-related problems were cited by five libraries, problems with obtaining and processing materials were noted by two libraries, one library mentioned catalog card reproduction problems, one felt security was a problem, and two libraries mentioned lack of staff and lack of staff time to do reference and research work. Other problems mentioned were unique to those particular libraries at the time of the interview.

As with the agency form, the next block of questions was related to the use of computer technology. The same lead-in paragraph as was used on the agency form was used on the library form.

Q. 7.1 If some of the information your patrons need to know were made available by means of a desk-top unit, how likely

would you be to want to learn to use it, personally, forgetting about the cost of such a unit?

N = 14 R = 13 = 93%

Very likely	10 respondents	77%
Likely	1	8%
Not very likely	1	8%
Not at all	1	8%

The concept of the librarian as intermediary for the patron in providing information comes through strongly in the answer to this and the following two questions. Eighty-five percent of those replying to this first question were interested in the concept of learning more about this new technology.

Q. 7.2 How likely would your co-workers be to want to learn to use it?

N = 14 R = 11 = 79%

Very likely	8 respondents	73% of respondents
Likely	1	9%
Not very likely	1	9%
Not at all	1	9%

Q. 7.3 How likely would your patrons be to want to learn to use it themselves?

N = 12 R = 11 = 92%

Very likely	2 respondents	18% of respondents
Likely	4	36%
Not very likely	5	45%
Not at all	0	0%

Thus we see that 82% felt their co-workers would be interested, while 54% thought their patrons would be interested in learning to use it themselves.

The agencies seemed to indicate they would prefer their own people using the system without intermediaries. In all probability, if such a system were to become a reality, a separate class of users would become identified, made up of both librarians and patrons, who feel more comfortable than others with the new technology. The only way to find out who does feel comfortable is to try an experiment.

Q. 7.4 Would you use it personally if:

extensive training was required?
a few hours training was required?
anyone could use it after a few minutes training?

N = 14 R = 11 = 79%

All eleven library respondents would use it if it was easy enough for anyone to use. Three libraries would use it if a few hours training was required but not if extensive training was required. Eight libraries, representing 73% of those replying to this question, would use it personally even if extensive training was required.

Q. 7.5 Would your co-workers use it if extensive training was required? If a few hours training was required? If anyone

could use it?

N = 14 R = 9 = 64%

Five respondents, representing 56% of those replying, felt even extensive training requirements would not hinder their co-workers from using it. Four libraries, representing 44% of respondents, felt extensive training would be a minus factor, and felt their co-workers would use it only if a maximum of a few hours of training was required.

Q. 7.6 Would your patrons use it themselves if:

extensive training was required?	1 respondent	11%
few hours training was required?	4	44%
anyone could use it?	4	44%

Here the respondents were uncertain as to patron response in terms of difficulty of use. Most were certain it would have to be relatively easy, but how easy they couldn't say. Only one respondent felt patrons would consider undergoing extensive training.

Q. 8.1 If you were to use such a system, how would you like the information (or answers to your patron's questions) presented?

N = 14 R = 12 = 86%

in printed form (tends to be noisy)	2	17%
on a tv-type display screen only	0	0%
some combination so searches could be made using the tv and then printed out right away with the printing machine in a place where noise could be tolerated	10	83%
some combination so searches could be made using the tv but then printed out someplace else and mailed to the patron	0	0%
other	0	0%

Q. 8.2 Do you think your patrons would conside it satisfactory if it took a few days to get the answers to their inquiries? Yes/No. If yes, how many days do you think they would accept?

N = 14 R = 10 = 72%

No, would not accept delay	6 respondents	60%
Yes, would accept delay	4	40%

One library spanned the range, feeling anywhere between two and seven days would be acceptable. Two felt three or four days would be tolerated, only one said a maximum of two days would be acceptable.

Q. 8.3 If you were to use such a system, where would it be best located for your needs?

N = 14 R = 10 = 72%

at the reference desk	6 respondents	60%
at some central point within the building	4	40%
at some place within the larger institution of which our library is a part		0
at other area libraries		0

One comment was made that a special room should be set aside for the terminal(s) and photo-copy machinery, but most respondents saw some type of tv display at the reference desk with a hard-copy device in the back room somewhere.

Q. 8.4 Which hours of operation would you consider to be safisfactory?

N = 14 R = 11 = 79%

just a few hours daily	0	0%
9 - 5	4	36%
9 - 9	5	46%
9 - midnight	2	18%
24 hours a day	0	0%

Unlike most agencies, libraries are open longer than the normal 9-5 day. To stretch the time to 24 hours, however, seemed a bit much even for the one library which is already open 24 hours a day.

Q. 9.1 In such a system, there are different forms in which the information can be made available. Please look at the card and indicate which one of these you think your patrons would most prefer.

N = 14 R = 10 = 72%

Union catalog of urban affairs literature, including government documents	3	30%
Mainly statistical information	3	30%
Union catalog of urban affairs literature with abstracts	2	20%

Mainly abstracts of articles from periodicals on urban affairs	2	20%
Mainly directory-type information	0	0%

Q. 9.2 Now, please, go back and rank the rest in order of importance for your patrons. (1 = most important, 5 = least important). You may use the same ranking for more than one category.

N = 14 R = 10 = 72%

Item ranked #1 (most important)	# of libraries	%
Statistics	4	40%
Union catalog	3	30%
Union catalog with abstracts	2	20%
Abstracts of articles	2	20%
Directory-type information	0	0%

On a point count basis;

Statistics	36 points
Article abstracts	32 points
Union catalog with abstracts	30 points
Union catalog, no abstracts	27 points
Directory	22 points

Other than statistics, ranked number one by more indicators than other items, and directory-type information, ranked last, analysis shows conflicting results. However, four libraries ranked the union catalog last while no library ranked the union catalog with abstracts last.

Those libraries which deal almost exclusively with urban affairs literature held strong opinions on the desirability of a statistical data base vs. the desirability of a union catalog without abstracts. Those who ranked statistics first usually ranked a union catalog without abstracts last, ranking a union catalog with abstracts and article resumes somewhere in between.

Q. 9.3a If the kind of information you indicated was most important to your patrons was on such a system and it worked, do you feel you could budget $1,000 a year to have a terminal? Yes/No.

N = 14 R = 6 = 43%

As with the agencies, most libraries felt they could not reply to such a question at the time of the interview. Of the six who did reply, all said "yes," they felt they could budget $1,000 a year to have a terminal.

Q. 9.3b Do you feel you could budget between $5,000 and $10,000 a year to have a terminal and access to the system?

Only four libraries replied to this question. Three said "no," only one said "yes."

Q. 9.3c Would you be willing to have your personnel trained to use an experimental system if the cost was between

$1,500 and $3,000 to buy or lease a terminal?

The question was answered by the libraries on the basis of a yearly rate of between $1,500 and $3,000 rather than a one-time cost. Of the four libraries who replied to this question, two said "yes," one said "no," and one said "maybe."

It is clear that no library expects this service to be free to patrons, although they seem willing to absorb the cost of the terminal hardware.

Q. 9.4 It is difficult to compute costs and benefits for information systems since the benefits of information are not directly measurable. Do you have any suggestions as to how such an analysis could be done?

N = 14 R = 5 = 36%

Of the five libraries who replied to this question, one said that costs and benefits are separate and not comparable, and we must assume this respondent meant that comment to apply to the costs and benefits of information. Of the other four, one felt time saved in manipulating census statistics and other statistics to give such items as population density would be a benefit. One said "put it on a cost basis to the patron and see if it is a benefit to him." Another said usage vs. costs should be the basis for cost/benefit analysis, and the last comment was concerned with the contents

of the information bank, feeling that if narrative and statistical information was in one place the patrons would be able to go to one source and thereby save time and effort.

Q. 9.5 Would your library be willing to cooperate in providing input information for an experimental system if it required:

none of your personnel
one-half staff person for one year
one-half staff person for two years
one full staff person for a year
one full staff person for two years
more than one full-time staff person

N = 12 R = 10 = 83%

One library would be willing to consider assigning one full staff person for one year. Another would be willing to have one-half staff person work on the project for two years, three would supply one-half staff person for one year, while five would only cooperate if it involved none of their personnel.

Q. 10.1 How much computer experience have you personally had?

N = 14 R = 14 = 100%

None	5 respondents	36%
Very little	4	29%
Can use canned programs	4	29%
Extensive	1	7%

Sixty-five percent of the respondents can be considered inexperienced, 35% experienced, or computer-knowledgeable.

Have never seen an on-line terminal	6	43%
Have seen an on-line terminal but never used one	4	29%
Library has on-line terminals	1	7%
An on-line terminal is available but I have never used it	1	7%
Can use an on-line terminal but the agency doesn't have one	2	14%

Q. 10.2 Would you please tell me about how much computer experience your library has as a whole?

N = 14 R = 14 = 100%

None	6	43%
Use output	7	50%
Library uses central computer for the institution of which we are a part	5	36%
Library employs computer knowledgeables	4	29%

In addition, one library has an on-line terminal connected via phone lines to the MEDLINE system.

One small college library uses their central computer for budgeting only. One university library has a printed output serials catalog for public use and produces another output giving the current status of books in circulation. The public library uses a computerized on-line ordering system and is working on MARC service.

From information in the laterature, it would appear that industrial technical and university libraries are more heavily involved with computerized patron services than any other type of library, and this would seem to hold in Milwaukee.

On the basis of this survey, one can say that in general Milwaukee libraries are in tune with their patrons with regard to urban affairs information, with only one or two notes not quite on pitch.

VI. Costs and Benefits

In October of 1973 a three-day symposium on Information: Costs and Benefits, sponsored by the American Society for Information Science, is to be held. This is the first time the topic has been considered in all its ramifications, and until the papers presented at the conference have been absorbed by the participants, the proceedings published, and an evaluation made, we will not know if it is even possible to talk about cost/benefit analysis for information.

In the meantime, the best we can do is discuss the costs of the literature, some theories of the benefits of having information vs. not having information, the cost-effectiveness of computerized literature services, some considerations of time/money trade-offs, and we can look at URBANDOC, one attempt to provide an urban affairs literature data base capable of machine manipulation.

Costs of the Literature

Although prices change rapidly on an absolute basis, relative costs generally tend to remain constant. We should expect current information to be more expensive than delayed information, in-depth information to be more expensive than overviews, and information specific to one topic to be more

expensive than broadcast information. Let us see if this holds true as we look at various types of publications in the urban affairs field.

Current awareness services for the disciplines involved under the general rubric of urban affairs are not plentiful. A commercial service which provides a weekly update summary is the Commerce Clearinghouse Urban Affairs Reporter, at $600 a year. A weekly abstracting service for journal and magazine periodical articles is produced by the National League of Cities, called Urban Affairs Abstracts. This publication costs about $200 a year. There is a monthly in-depth report on one specific topic of interest to governmental agencies published by the International City Management Association called Urban Information Service reports. A subscription to this service costs $100 a year for those eligible to receive it. A subscription to the daily and Sunday New York Times costs about $120 a year. A subscription to both Milwaukee daily papers costs about $80 for one year, although this cost is higher on a non-subscription basis.

Indexes and bibliographies of government documents are priced in direct relation to government subsidies for their publication. The Monthly Catalog of U. S. Government Documents costs $12.50 a year, is not specific to urban affairs, and is three to six months behind. The only State of Wisconsin publication similar in

content is the monthly publication by the Wisconsin Historical Society called Wisconsin State Documents, which only lists documents received by the Historical Society. There is no estimate of the number of documents produced by state agencies, so it would be difficult to say what proportion of those are actually listed in the publication. We must assume it is not a large percentage, possibly as low as 10%. The only consolation to Wisconsin residents is that this document is distributed free of charge as a public service. Documents produced by local units of government have generally not been indexed on a continuing basis. An attempt to rectify this is being made by Greenwood Press with their Index to Current Urban Documents. A subscription costs $120 a year, with microfiche copies of the complete documents available for purchase at about a dollar each at last report. This publication seems to be having difficulties getting started; whether it can continue is problematic at this point in time.

An old reliable library document in this field is Public Affairs Information Service (P. A. I. S.) The total price for all issues is $100 a year. The newest indexes are Social Science Citation Index and American Statistics Index. The former is not yet available commercially, the latter is being priced at $60 a year although it, too, is not yet available commercially.

We could go on, but the trend is clear. Current information is costly, with $100 a year per publication a good rough approximation. A few services, such as the bibliography service called Recent Publications on Governmental Problems, which costs $15 per year, are cheaper, but do not provide sufficient information to evaluate the documents listed. For those aware of the literature, however, this service would be rated "Best Buy."

Another way of looking at the costs of the literature is to see what $50 would buy. Based on 1972 prices, an urban agency could buy 365 issues of one daily local paper, or about one year of four journal subscriptions, or between twelve and twenty government documents, or five to seven hardcover books. In other words, for the $200 annual cost of Urban Affairs Abstracts, an agency could own one year of one local daily, plus four journal subscriptions, plus fifteen government documents, plus five or six hardcover books.

If these purchased documents are supplemented by visits to libraries to gather more information, the agency is probably in pretty good shape. If these are all the agency sees, then the agency could be considered information-poor.

The Benefits of Information

Theorists present several alternatives, usually in the form of similies, to begin the measurement of the benefit of having information. To quote one recent writer, "Information is bought, sold, stored, traded, exchanged, and consumed in economic terms. It is treated both as a product and a service, as a commodity to be used in the process of attaining human goals, and it is taking on the fundamental value aspects of money."[15]

Another writer says, "Information is like insurance. It is valueless except when you need it, when it becomes priceless (We need to recognize) the value of paying a relatively small sum on a regular basis now, so that we have access to a relatively large sum at some undefined point in the future."[16] To this writer, money buys information. Does it also follow that in order to get information, you must have information?

The oldest theory, based on Shannon's information theory equation, says that the benefits of having information can be discussed in terms of reduction of uncertainty.[17] That is, when a

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15. Susan Artandi, "Information Concepts and Their Utility," Journal of the American Society for Information Science, Vol. 24, No. 4, July/August, 1973, p. 242-245.
16. R. M. McMullen, "Information--Value and Cost," Journal of the American Society for Information Science, Vol. 24, No. 5, Sept/Oct. 1973, p. 404.
17. Harold B. Pepinsky, editor, People and Information, Pergamon Press, New York, 1970.

decision must be made, it is subject to a certain amount of uncertainty. If complete information were available (if we knew the future) there would be no uncertainty. Since complete information is the ideal case, we always work with an amount of uncertainty which we attempt to reduce by gathering information. In these terms, the benefits of having information would be "better" decisions, decisions which in the long run would be more "right" than "wrong."

The problem with this approach is that a "correct" decision by one person would be an "incorrect" decision by another person if their basic value systems were dissimilar, even though both decisions were based on identical total information.

While there are problems with the uncertainty hypothesis, we can now talk about the costs and benefits of withheld information. Withheld information is a fact of life. If it were not beneficial, people wouldn't do it. The benefits that accrue to those that withhold information is a continued uncertainty on the part of those who do not have the information. Uncertainty leads to lack of decision-making and inaction, giving more time and more control over the situation to those who have the information others want. The cost of withholding information in these terms is the cost of resisting the pressures to release the information.

The only theory which seems amenable to cost/benefit analysis in monetary terms is the insurance theory. If this theory can be worked out in formal economic terms, information scientists may have something to talk to the PPBS people about in terms they can understand.

There is also the problem of information overload. That is, the amount of information one person can process and still remain reasonably sane is limited. In an interesting discussion of this problem, Karl Weick sets out the conditions that affect a person's perceptions of the magnitude of information overload he is experiencing.[18] If the person's assumptions include the belief that data are timeless, that reading is the same as doing something, that originality is not a priority item, that doing something is not vital to self-esteem, and that ambivalence is acceptable, that person is not likely to experience overload. On the other hand, if a person feels that data are timely, that reading is not equivalent to doing, that originality has a high priority, that doing something is vital to self-esteem, and that ambivalence is unacceptable, that person is a prime candidate to experience overload. From the analysis of urban agencies performed for this report, it would appear that most urban decision-makers are

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18. Karl E. Weick, "The Twigging of Overload," Chapter 3 of People and Information, Harold B. Pepinsky, editor, 1970.

prime candidates for information overload. The answer to information overload is pre-selection and pre-digested information, such as the daily newspaper summaries prepared for the President of the United States.

Cost-Effectiveness of Computerized Systems

A general summary of costs of input to computerized systems is not available, but that cost is acknowledged to be very high. In terms of cost per use, a data-extracting system is apt to be much more expensive than conventional systems. In terms of cost effectiveness, however, for both current awareness and retrospective searching, computerized services were found to be more cost-effective than any other type of literature service, to the extent that in one study, the calculated "value" of computerized services in terms of time saved for a staff of 100 chemists for one year came to $250,000.[19]

Unfortunately, there is a peculiar feeling pervading the culture that literature and library work ought to be leisurely, thoughtful, and thorough. Moreover, the popular picture of the civil servant who takes infinite pains with minutia while ignoring

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19. Cost Effectiveness of Information Systems, a Report by the Subcommittee on the Economics of Chemical Information of the Committee on Corporation Associates. American Chemical Society, May 20, 1969. Reprinted as U. S. Government Document #ED-047-753.

the broader picture adds to the feeling many people have that time is not a particularly important factor for governmental employees. Social service agencies, too, suffer from this all-the-time-in-the-world cultural myth. As a direct result of this attitude, two segments of urban life surveyed for this report -- government agencies and social service agencies -- are expected to spend time instead of money; the "time is money" philosophy somehow does not apply to them.

There is no logical argument one can present to refute a cultural myth. Time is money, and if time can be saved, money is also being saved, in that the time can be spent on other things, such as people-to-people services.

URBANDOC

Urbandoc was a bibliographic information system demonstration project at the City University of New York, co-sponsored by the New York City Planning Commission and funded by an Urban Renewal Demonstration Grant awarded by the Department of Housing and Urban Development in the late 1960's.[20]

An examination of the final report of this project shows

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20. Urbandoc, A Bibliographic Information System, Vivian S. Sessions, Project Director, The Graduate Division, The City University of New York, 1971. Three volumes, consisting of the Demonstration Report and two Technical Supplements.

that one of their assumptions, based on the results of our survey, was wrong. "The project encouraged the viewpoint that references to specific documents were no less important, in the over-all information universe, than statistics and other discrete data items, especially if the data items have to be located via bibliographic systems." The statistics items are definitely more important that simple references to specific documents. If the project had concentrated on pulling out sources of statistics and then listed the types of statistics contained therein, the overall usefulness of the system would have been enhanced.

The most useful product of this demonstration was their Input Index, a listing of the materials that were added to the data base, as they were added. They also found that requests for complete copies of items listed were constant and increasing over the life of the project, but since the project had no method of providing copies, these requests could not be accomodated.

Urbandoc also found problems with thesaurus construction. The language of urban affairs is too dynamic for any vocabulary to represent more than the state of the art at a given moment. Forced to work with a controlled vocabulary, it took six months to develop a satisfactory subject terminology, which changed the day after the final copy was produced. If abstracts in the form of

first and last paragraphs had been provided, and if these and the titles could have been searched on a word-by-word basis, the controlled vocabulary would not have been necessary.

Urbandoc demonstrated the feasibility of applying computer techniques to manage the variety of documents and source materials useful to urban planners. Urbandoc also demonstrated that standard file-management is not the best way to handle urban affairs materials, and points the way to improved methods which have yet to be tried.

VII. Conclusions

The title of the proposal which led to this survey was "Urban Affairs Information System Potential Users Survey." We set out to discover (1) the kinds of information urban agencies use, (2) what their perceived needs are, (3) how their perceived needs differed from their actual needs, (4) where their information problems lay, (5) if a collection and retrieval system based on computerized techniques was feasible, (6) perceptions and attitudes toward computerization, (7) willingness to cooperate in an experimental system, and (8) willingness to pay.

Like scientific researchers, urban agencies are generally at the edge of the known and reaching for the unknown. Unlike scientific researchers, their data is timely rather than timeless, the vocabulary is dynamic rather than static, and constant change is the rule rather than the exception.

Unlike other information systems, an urban information system needs no extensive data base for retrospective searches, it should work on the philosophy that urban information and urban communication are inseparably linked, with speed and ease of use the controlling factors.

Based on survey results, the ideal, or most useful system would be characterized by centralized input of recent acquisitions

of government documents, published reports, professional journals, and books in the fields of employment, education, economic development, housing, intergovernmental relations, and social planning as the core, additional subjects as necessary, combined with an efficient distribution system for complete documents, tables, laws, regulations, etc.

In addition, it must include ststistics and sources of statistics, and it would be helpful to include the status of current legislation affecting urban areas on the federal and state level, administrative rulings by federal and state governmental agencies, as well as some kind of indexing system for newspaper and general magazine articles.

Categories which call for in-depth treatment include "howplex" and "who's doing what" information. Simple bibliographic details do not appear to be sufficient. Abstracts, statistical tables, legal material, and comments of a general informational nature should provide an evaluation mechanism for deciding which complete documents are important enough to read in their entirety. Location and/or ordering information is a necessity, with the possibility of microform copies for lengthy documents and other reproduction techniques for shorter materials kept in mind for the future.

A collection and retrieval system based on computerized techniques was found to be feasible, although there does exist some strong anti-computer sentiment; perhaps as high as 20% of the respondents could be put into this category. On the other hand, 46% of the agencies overall were willing to accept three weeks training for a staff member to enable that person to use the system.

Costs are another matter. 58% of the agencies did not reply to cost questions. Libraries seem willing to provide the terminal hardware, but not the cost of searches and only a portion of the input requirements. With a sufficiently simple system to operate, agencies would provide their own retrieval personnal and appear willing to bear the cost of a few experimental searches in order to test the usefulness of the system to them. Traditionally, the agencies we are concerned with are expected to spend time instead of money. Computerized systems, while costly, are cost-effective in terms of time saved, but whether the cultural attitude which governs the agencies spending habits can be overcome would depend largely on their evaluation of any experiment which might be performed. The only possibility for an acceptable cost/benefit analysis revolves around an "information as insurance" approach, which at this point in time is not even a theory, but merely a suggestion.

The input decisions can safely be put into the hands of librarians, but they will need more feedback than is customary in library situations.

Since government documents are not now fully integrated into the traditional library catalogs or accession lists, it would appear that a data base built around those coming into local libraries, coupled with input from the 72% of the agencies who were willing to share their in-house resources, could prove to be a viable and valuable resource for the community.

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